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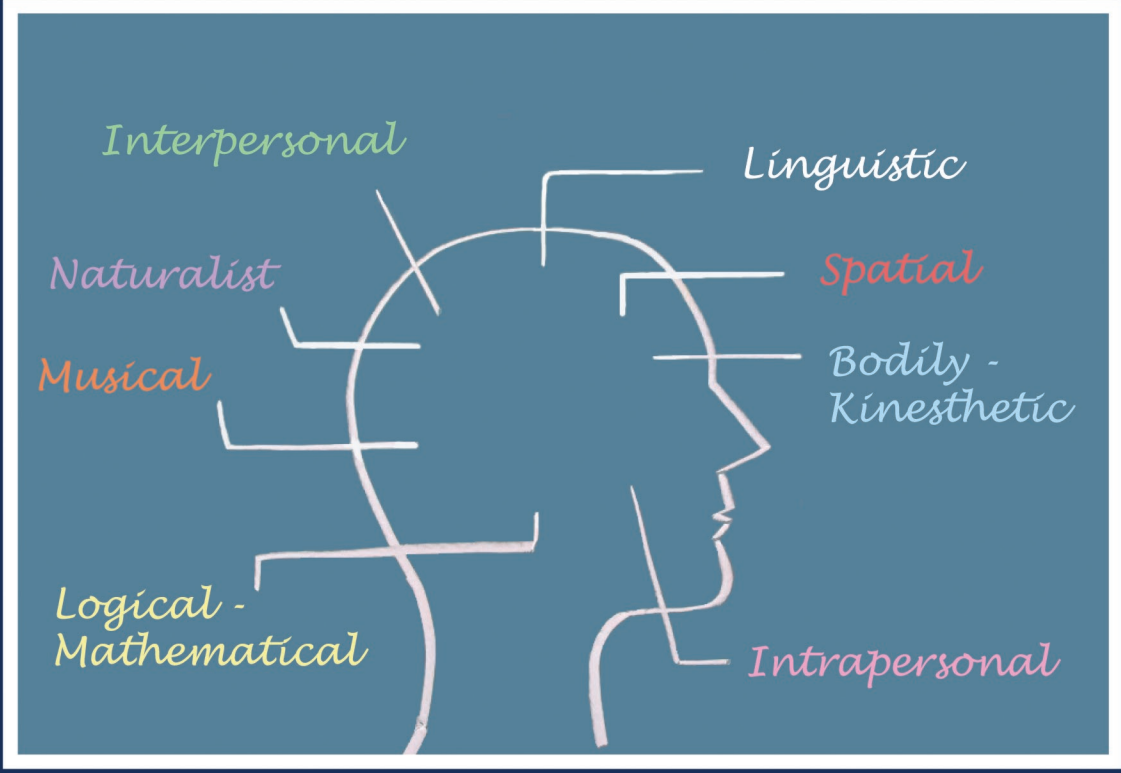
MULTIPLE INTELLIGENCES
Curriculum and Assessment Project



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ACKNOWLEDGEMENTS

This report is the outcome of a major collaborative project, which brought together a wide range of people between 1995 and 1999 to carry out research on the implications of Howard Gardner's theory of multiple intelligences for curriculum and assessment in Ireland. It was an exciting project, which involved educational policy-makers, administrators, inspectors, university lecturers, school principals, teachers, pupils, parents and others. It included teachers from all levels and sectors of education and it provided a forum for discussing and debating fundamental educational issues at a time of major change in Irish education. It sought to identify ways in which teaching and learning in this country could be improved and enhanced, and it sought to disseminate its findings on an ongoing basis. It aimed to challenge long-held educational assumptions and to influence developments in curriculum and assessment at local and national level. The success of the project is due in no small way to the commitment and energy of the many people who participated at different periods during the four years of the project and their contribution is acknowledged with gratitude.

Firstly, thanks are due to the members of the *Multiple Intelligences, Curriculum and Assessment* Project team in University College Cork. I would like in particular to thank Dr Joan Hanafin, Education Department, UCC, for her involvement during Phase I and the first year of Phase II when she directed the project. Her work on drafting the research proposal and her contribution to Phase I have already been acknowledged in the Introduction to the publication *Towards New Understandings*, which she edited and which was published in 1997. She also edited the first two editions of the MI Bulletin and spearheaded the work of Phase II of the project when it was getting off the ground from January to June 1997.

I would also like to thank Marian McCarthy, also of the Education Department of UCC, who supported the work of the Project throughout, and who contributed to virtually all its workshops, seminars and meetings. She also played an important part in disseminating the work of the Project, as can be seen from the indicative list of dissemination events in the Appendix. Marian was responsible for co-ordinating the research carried out by the teachers attending the Higher Diploma course in Curriculum Studies (CSPE) and the H.Dip. in Ed. (CSPE group) in 1997/8 and the findings of that element of the Project are chronicled in Chapter 5. Dr Anne Rath's involvement in Phase I of the Project has already been recognised in the publication *Towards New Understandings* and her continued support during Phase II is detailed in Chapter 6 of this report. While recognising that her input to Phase II was somewhat more curtailed

than she would have wished, I would like to acknowledge the significance of her involvement and its value to the participants.

The Project owes much to the hard work and dedication of the two Research Fellows – Pat Naughton and Marie Flynn, whose key role during Phase II (1996 to 1999) is acknowledged with appreciation. The part which they both played throughout the three years is evident in their contribution to this report, in Chapters 1 to 4. The work of various Research Assistants, full-time and part-time, is also appreciated. Rosarii Griffin and Siobhán Murray played an important role during Phase I of the Project – a role which has already been acknowledged in earlier publications. Others whose research work contributed to the knowledge base of the Project include Lucy Lambe who completed a thesis in 1998 on *Teaching for Understanding in Business Studies*; Patricia Fitzpatrick whose research on *Teaching Mathematics through Dance* is nearing completion; and Eileen Coleman, whose thesis on the implementation of the CSPE curriculum in schools in the region, is also close to completion. Anna Ridgeway's work on assessment in early years' education, which draws on the work of Project Spectrum is also acknowledged.

I am particularly grateful to the members of the Steering Committee for their ongoing support. These were Maura Clancy, Assistant Chief Inspector in the Department of Education and Science; Dr Sheelagh Drudy, Lecturer in the Education Department of the National University of Ireland at Maynooth and recently appointed Professor of Education and Head of the Education Department of University College Dublin; Dr Joan Hanafin of the Education Department of UCC; Professor Diarmuid Leonard of the University of Limerick; Mr Stephen McCarthy, national co-ordinator for Civic, Social and Political Education and now with the National Council for Curriculum and Assessment; Mr Albert Ó Ceallaigh, Chief Executive of the National Council for Curriculum and Assessment; Mr Padraig Ó Conchubhair, District Inspector with the Department of Education and Science in Cork; Professor Denis O'Sullivan of the Education Department of UCC and Dr Steve Seidel of Project Zero at the Harvard Graduate School of Education.

The central role played by the participating teachers cannot be overstated. There were over thirty Cork-based teachers involved in Phase II of the Project and without their dedication and commitment this report would not have been possible. While their individual contributions remain anonymous, they will recognise the references to their own and their colleagues' work throughout the report. They were generous in making available their lesson plans, materials and resources associated with these plans, the work of their pupils and in many cases, their own and their pupils' reflections on the

process. Similarly, our thanks are due to the teachers and student teachers on the various courses in University College who contributed to this report.

We are grateful to others who contributed at various times throughout the Project, including Professor Diarmuid Leonard and Vic Merriman who contributed to workshops during the early months of Phase II. Gary O'Donoghue, initially a participating teacher, subsequently an Education Officer with the National Council for Curriculum and Assessment and now an inspector in the Department of Education and Science played an important role during Phase I and the first year of Phase II. He welcomed Yvonne Healy of the *Irish Times - Education and Living* to his school in Spring 1997 where she observed a Multiple Intelligences classroom in action and wrote up her observations in that newspaper. We are also grateful to Anne Fleischmann, then Education Officer with the Presentation network of schools, who was one of the pioneers of Multiple Intelligences in Irish classroom. Anne attended many of our early meetings and was an invaluable source of information and support during the early period of the Project. Another person whose ongoing support we appreciated was Michael Darmody, Senior Inspector with the Department of Education and Science, who had national responsibility for the CSPE syllabus when the Project commenced. The Transition Year support team, advised by Maura Clancy, was always supportive and helpful, especially Gerry Jeffers, Eilis Humphreys, Linda O'Toole and Bill Reidy.

During the final year of the Project, Maura Grant, National Co-Ordinator of the Breaking the Cycle (Urban) initiative provided us with a challenging opportunity to work with the principals and staffs of all the schools in that initiative. We introduced them to MI theory and presented workshops on the use of MI strategies and related ongoing assessment. We are grateful to Maura for providing us with this opportunity to work with whole school teams and to influence their approach to whole school development planning. We are also grateful to Sr. Sheila Kelleher, Principal of Presentation Secondary School, Ballyphehane, for providing us with a similar opportunity in her school.

The significance of the work of Project Zero at Harvard Graduate School of Education in providing an exemplar for our project, is highlighted throughout this report. The Project Zero Summer Institutes between 1996 and 1999 were an invaluable educational experience and a source of inspiration for our team. Many members of the Project Zero team provided constant encouragement. We are particularly grateful to Steve Seidel and Lois Hetland for their ongoing advice and support. Both of them visited Cork on two occasions and worked with the Project and with the participating teachers. Their ready availability at all times was much appreciated. I would also like to acknowledge the permission of Lois Hetland and of the President and Fellows of Harvard College for

permission to reproduce the Teaching for Understanding Graphic Organiser in Chapter 5 of this report. Specific acknowledgement and reference are made throughout the report to the many publications of the staff of Project Zero, which informed much of our work.

This list of acknowledgements would not be complete without expressing our thanks to Hannah Joyce and Claire Butler of the Education Department who provided administrative and secretarial support throughout the Project. Their willing involvement and good-humour kept the Project on track throughout. Others in the Department who provided moral and other support included Dr Francis Douglas, currently the Head of Department, Des Hourihane and Tom Mullins. We express our appreciation to all of them.

Finally, I would like to thank our External Evaluator, Dr Eileen Doyle, who evaluated the Project from 1997 to 1999. Her conscientious attendance at virtually all meetings and events of the Project during the two-year period was much appreciated. Her report is published as a companion volume to this report.

Áine Hyland, Editor

April, 2000

INTRODUCTION

Origin of the Multiple Intelligences, Curriculum and Assessment Project

Áine Hyland

The theory of Multiple Intelligences (MI) first came to the attention of educationalists in Ireland in the mid 1980s, not long after the publication in 1983 of Howard Gardner's seminal work *Frames of Mind.* In his original elaboration of MI theory, Gardner proposed that all humans have at least seven identifiable intelligences – he later (in 1997) added an eighth. The eight intelligences are as follows (in each instance, examples of occupations – "endstates" – which would embody the relevant intelligence in action, are suggested):

- *Linguistic Intelligence* allows individuals to communicate and make sense of the world through language (poets, journalists, writers, orators);
- *Logical-mathematical Intelligence* enables individuals to use and appreciate abstract relations (scientists, mathematicians, philosophers);
- *Musical Intelligence* allows people to create, communicate, and understand meanings made out of sound (singers, musicians, composers);
- *Spatial Intelligence* makes it possible for people to perceive visual or spatial information, to transform this information, and to recreate visual images from memory (architects, engineers, sculptors);
- *Bodily-kinesthetic Intelligence* allows individuals to use all or part of the body to create products or solve problems (craftspeople, dancers, surgeons, athletes, choreographers);
- *Interpersonal Intelligence* enables individuals to recognise and make distinctions about others' feelings and intentions (parents, teachers, politicians, psychologists, salespeople);
- *Intrapersonal Intelligence* helps individuals to distinguish among their own feelings, to build accurate mental models of themselves, and to draw on these models to make decisions about their lives (difficult to observe in specific occupations, but relevant to most);
- *Naturalist Intelligence* allows people to distinguish among, classify, be sensitive to, and use features of the environment (farmers, gardeners, botanists, florists, geologists, archaeologists)[1].

[1] Condensed from S. Veenema, L. Hetland and K. Chalfen, *The Project Zero Classroom: New Approaches to Thinking and Understanding,* Harvard Graduate School of Education, 1997

The eight areas represent the range of intelligent human functioning. While each area is identified as a discrete intelligence, each also interacts with others in complex ways to produce the richness of human behaviour and achievement. Ordinary human functioning requires such interaction. Many people will exhibit a highly-developed intelligence, not perhaps in their occupation, but in pastimes, interests, hobbies, in personal projects, or in social and personal relationships.

Kathleen Lynch of University College Dublin (UCD)[2] was the first person in Ireland to write about Gardner's work and to discuss its potential for Irish education. In 1989, she referred to the theory and its potential for education, in her book *The Hidden Curriculum*[3]. In a later book, *Schools and Society in Ireland* in 1993, she devoted a full chapter to "The Intelligence, the Curriculum and Education" arguing that the issue of intelligence should concern sociologists of education as "what is defined as intelligence or ability has a profound effect on what is defined as legitimate knowledge in schools[4]."

In January 1995, Kathleen Lynch invited Gardner to UCD where he gave a public lecture and facilitated a workshop for senior policy makers and teacher educators. As a result of this lecture and workshop and following a meeting with Howard Gardner, it was decided to initiate an action research project in University College Cork (UCC) which would investigate the possibility of applying MI theory to aspects of curriculum and assessment in Ireland.

Project Zero

Gardner has been associated with Project Zero at the Harvard Graduate School of Education since its establishment by the philosopher Nelson Goodman in 1967 and is now its co-director with David Perkins. Goodman was particularly interested in the way children represented their understandings in the arts, and he believed that arts learning should be studied as a serious cognitive activity. At the outset, he suggested that since what was known already about children's understandings within the arts was close to zero, the Project should reflect this in its title – hence *Project Zero*.

Project Zero's research focus has broadened over the years, examining teaching, learning and assessment processes - with particular emphasis on thinking and understanding – from both a theoretical and an applied perspective. When UCC became interested in the work of Project Zero in the mid 1990s, research was being carried out there on various aspects of teaching, learning and assessment, especially in the Arts; on

[2] At the time she first wrote on Multiple Intelligences, Kathleen Lynch was a lecturer in the Education Department of UCD. She has since been appointed Director of the Equality Studies Centre in UCD.
[3] K. Lynch *The Hidden Curriculum: Reproduction in Education: a Reappraisal* London: Falmer, 1989.

teaching thinking skills; on Teaching for Understanding; on the application of multiple intelligences theory; on assessment, especially in early years education (Project Spectrum) and on Portfolio Assessment; and on teacher professional development. It was clear that many of the issues, which were being researched at Project Zero, would be of interest to Irish educationalists and that there would be much to learn from the experiences and the findings of that project.

The General Focus of the UCC Multiple Intelligences, Curriculum and Assessment Project

An initial study (Phase 1) was carried out during the academic year 1995/6 by the Multiple Intelligences team in University College Cork, which focused on the application of the theory of Multiple Intelligences to assessment in Ireland - specifically the assessment of the subject Civic, Social and Political Education (CSPE). CSPE was a new subject of the second level curriculum, which was being piloted in a small number of second level schools in Ireland at that time. It was to become a compulsory junior cycle subject in 1996. This initial study in UCC was followed by a three year project, which started in September 1996 and was completed by September 1999.

In the initial project proposal, the hope was expressed that "the knowledge and experience gained during Phase 1 will contribute to other areas of the curriculum at both primary and second levels". It was envisaged that this would be done in the first instance by working with teachers and prospective teachers enrolled on the various post-graduate courses provided by the Education Department of University College Cork, involving about 450 teachers in any one year. These would include students on the Higher Diploma course in Education – a pre-service course for about 200 prospective teachers; the Higher Diploma in Curriculum Studies (CSPE); the Higher Diploma in Remedial Education; the Higher Diploma in the Teaching of Religious Education; the Higher Diploma in Educational Administration; and the Masters Degree in Education. It was envisaged that other networking at both local and national level would also take place to disseminate the findings of Phase 1.

By the beginning of the academic year 1996/7, the theory of MI and examples of its application had been incorporated into most of the Education courses in UCC. In addition, a one-week Summer School had been held in July 1996 which was attended by over 40 teachers and educational administrators. Links had been established with the national co-ordinating and training teams for CSPE and the Transition Year Programme as well as with curriculum experts who were involved in curriculum review and development at primary and second levels. Two members of the project team had

[4] S. Drudy and K. Lynch *Schools and Society in Ireland* Dublin: Gill and Macmillan, 1993.

attended a Summer Institute – *The Project Zero Classroom: New Approaches to Thinking and Understanding* – in Harvard Graduate School of Education in July 1996. Some in-service work with teachers and school administrators was being undertaken by team members through seminars, workshops, staff development days etc.

Phase 1 of the project and the first year of phase II (in 1996/7) was directed by Joan Hanafin, who lectures in curriculum and assessment and in research methods in the Education Department of UCC. She was also course director of the Higher Diploma in Curriculum Studies (Civic, Social and Political Education) at that time. In 1995/6 and 1996/7, two research assistants, Siobhán Murray and Rosarii Griffin, both of whom had recently completed the H.Dip. in Education and had qualified as second level teachers, worked on the project. A report on Phase 1 of the Project entitled *Towards New Understandings: Assessment and the Theory of Multiple Intelligences*, which was edited by Joan Hanafin, was published in Spring 1997[5]. This report provided an overview of the findings from Phase 1 of the Project and indicated the direction of Phase II. The publication also included articles on Multiple Intelligences Theory and on Approaches to Assessment as well as an article on links with MI schools in the Boston area

In September 1996, two research fellows, Pat Naughton and Marie Flynn, joined the team on a full-time basis and remained until the project ended in September 1999. Both had graduated with a First Class Honours Masters' degree in Education in 1996 and both were experienced primary teachers. During the academic years 1997/8 and 1998/9, the project was directed by Áine Hyland, Professor of Education and Head of the Education Department. Two other lecturers in the Education Department – Marian McCarthy and Anne Rath, were involved with the project during both phases. Marian McCarthy has a particular interest in active learning methodologies and drama in education as well as in Civic, Social and Political Education. Anne Rath was a post-doctoral research fellow with the Education Department in UCC in 1995/6 and had spent some months shadowing members of the Project Zero team in Harvard Graduate School of Education. She was appointed lecturer in the Education Department in UCC in September 1996 and has a special interest in reflective practice and in the professional development of teachers.

Phase II of the project was initially envisaged as a two year project but funding was secured for a three year project from 1996 to 1999. The original intention was that during phase II, the project would extend into a more general context with a view to shaping national policy in relation to the assessment of CSPE and ultimately other areas

[5] J. Hanafin (ed.) *Towards New Understandings: Assessment and the Theory of Multiple Intelligences.* University College Cork, 1997.

of the curriculum. It was envisaged that this would involve both a national and a local dimension with the inclusion of a larger number of participating schools as well as liaison with the National Council for Curriculum and Assessment and the Department of Education. As the proposal was refined, the second phase specifically focused on three areas of the curriculum: (a) CSPE; (b) the transfer from primary to second level schooling; (c) the Transition Year i.e. the year between the end of junior cycle and the beginning of the formal Leaving Certificate programme, i.e. around 16 years of age. The project would include an action research element in which about 30 teachers from primary and second level schools in the Cork area would work with the Project team, applying, reflecting on and refining MI strategies in their teaching and assessment. The team would chronicle and record the progress of the teachers with a view to identifying how MI theory could contribute to effective teaching, learning and assessment. A similar study would be carried out with the co-operation of the teachers on the Higher Diploma course in Curriculum Studies (CSPE) and the student teachers taking the CSPE option on the Higher Diploma in Education course. It was thus hoped that a considerable body of data would be built up on the application of MI theory to the teaching and assessment of CSPE and other areas of the curriculum.

Teaching for Understanding

During the four years of the MI project in UCC, the work of Project Zero moved forward apace and its research findings continued to influence the direction of the UCC project. Gardner further refined his theory of Multiple Intelligences, and by 1999[6] he had identified at least "eight and a half intelligences" compared to "at least seven" in 1993. Similarly, by 1999[7], he suggested that there were at least seven "entry points" to a topic as against "at least five" in 1995. During the same period, he had further clarified and explicated his thinking on MI theory and on related issues in no less than 26 articles and two books written as sole author, and in a further 14 articles and one book which he co-authored[8].

In some of these publications, Gardner expressed concern at the way in which some schools inappropriately applied MI theory. He was concerned that some teachers regarded MI teaching as a goal in itself whereas he (Gardner) argued that MI theory and MI strategies should be used as a means to an end. In 1997 he wrote:

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[6] Howard Gardner *Intelligence Reframed: Multiple Intelligences for the 21st Century* New York: Basic Books, 1999.

[7] Howard Gardner *The Disciplined Mind; What All Students Should Understand* New York: Basic Books, 1999.

[8] See bibliography in H. Gardner *Intelligence Reframed* (op. cit.) pp. 239 – 175.

> It takes time to absorb the full implications of Multiple Intelligences theory, because it is more radical than most educators initially appreciate. It also takes time for educators to work out specific practices, whether they focus on curriculum, assessment, pedagogy or some combination... MI is not an end in itself. To say that one has an MI classroom or an MI school is not meaningful – one has to ask "MI for what?"... Those interested in MI must first state their educational goals and values. Only when educators clearly state and agree upon these larger goals – to teach for understanding, to prepare individuals for the world beyond school, to develop each person's potential fully and to make sure that students master core knowledge – does it make sense to ask: "Can MI be useful in pursuit of this goal? If so, how? [9]

The growing interest in teaching for understanding which developed in the US during the 1980s and 1990s, was partly a reaction to the narrow skills-oriented curriculum that had become a feature of many western countries. There was increasing evidence that large numbers of students were not receiving a worthwhile education – "one that allows them to be critical thinkers, problem posers, and problem solvers who are able to work through complexity, beyond the routine, and live productively in this rapidly changing world".[10] This concern led to a refocusing of effort on developing approaches to curriculum design which emphasised understanding, while recognising that basic skills will always be a prerequisite to effective learning. It is a question of relative emphasis, not a question of focusing on *either* understanding *or* skills. However, a focus on understanding requires a conscious re-orientation on the part of teacher and learner. It requires more emphasis on depth of learning and understanding and less on coverage of material.

In Project Zero in the late 1980s and early 1990s, more than 60 school-based and 30 university-based educators and researchers had worked under the direction of Howard Gardner, David Perkins and Vito Perrone, in an effort to define understanding. They identified aspects of classroom practice that best supported understanding and wrestled with complex issues of assessing understanding. The outcome of this research[11] formed the basis for a major element of the UCC project during Phase II.

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[9] (H. Gardner "Multiple Intelligences as a Partner in School Improvement" in *Educational Leadership,* September1997)

[10] V. Perrone "Why Do We Need a Pedagogy of Understanding" in M. Stone Wiske (ed.) Teaching for Understanding San Francisco: Jossey Bass Publishers, 1998, pp. 13/14.

[11] Martha Stone Wiske (ed.) Teaching for Understanding: Linking Research and Practice San Francisco: Jossey-Bass, 1998

Teaching for Understanding (TfU) was a key focus of the project from September 1997 onwards.

Researchers on the Teaching for Understanding Project in Harvard developed a particular view of understanding, terming it a 'performance view'. This is defined as "a matter of being able to do a variety of thought-demanding things with a topic, like explaining, finding evidence and examples, generalising, applying, analogising, and representing the topic in new ways".[12] This performance view of understanding is central to the construction of the *Teaching for Understanding* (TfU) framework, which will be discussed in more detail in later chapters of this report. The TfU framework is an important means by which practitioners can restructure their classrooms in terms of teaching and assessment. The framework suggests that teachers – to make their planning more specific – need to ask four central questions:

- What shall we teach?
- What is worth understanding?
- How shall we teach for understanding?
- How can students and teachers know what students understand and how students can develop deeper understanding?

In essence, the TfU framework is constructed around the answers to these four questions.

Contacts between Project Zero and the UCC Project, 1995 – 1999

During the life of the UCC project close contact was maintained with Project Zero. In all, seven members of the UCC project team and/or the Education Department staff attended the Project Zero Summer Institutes which were held in July 1996, 1997, 1998 and 1999. In addition, at least five other Irish educationalists attended the Institutes, thus developing an expertise in aspects of Project Zero's work. Áine Hyland was invited to become a member of the Faculty of the Project Zero Summer Institutes in 1998, 1999 and 2000. Members of the Project Zero team also visited UCC. In November 1996 and 1997, Steve Seidel came to Cork to work with the project team and the participating teachers and led workshops on Portfolio Assessment. The following year, in March 1998, Lois Hetland visited Cork and facilitated a seminar on Teaching for Understanding. The following year later she again visited UCC to carry out further work with the participating teachers and the project team.

The Debate on Assessment in Ireland

[12] ibid.

A number of developments occurred in Ireland during the period 1995 to 1999, which were to have a significant effect on the direction of national policy in Ireland in relation to assessment, and indirectly on the work of the MI project. Curriculum planners and policy makers were becoming more aware of the potential of authentic forms of assessment for improving student learning. Innovative forms of assessment had been introduced in programmes such as the Leaving Certificate Applied, the Link Modules of the Leaving Certificate Vocational Programme, the Junior Certificate Schools Programme and Post-Leaving Certificate courses certified by the National Council for Vocational Awards. The Transition Year team encouraged school-based TY co-ordinators to use the relative freedom of the Transition Year to introduce innovative forms of assessment, including Portfolio Assessment, for TY pupils. At primary level, the Review Body on the Primary Curriculum had decided not to go down the road of focusing on national standardised testing, but to recognise the potential of various forms of assessment for improving student learning[13] This approach was supported by the partners in education, including management bodies, the Irish National Teachers Organisation – the union which represents primary teachers – and the National Parents Council – Primary.

In successive publications, the National Council for Curriculum and Assessment advised that modes and techniques of assessment in mainstream education, particularly at junior cycle level, should be broadened to reflect the aims of the curriculum. Course committees at second level – at both junior and senior cycle – recommended that approaches to assessment for various subjects should be congruent with the aims of the curriculum for those subjects. Such developments were particularly relevant in "new" subject areas such as CSPE, Religious Education and Physical Education – subjects that had not previously been examined for certification purposes at national level. For example, when the work of Phase 1 of the MI Project started in Cork in 1995, no decision had been taken at national level as to how the new junior cycle programme in CSPE would be assessed. By 1997 it had been decided that 60% of the marks would be allocated for coursework and 40% for a terminal written examination. This balance between ongoing assessment and written end of cycle assessment was welcomed by many educators, as it had broken the long-standing tradition in the Irish public examination system of awarding most of the marks to terminal written examinations.

However, there was considerable resistance from some second-level teachers – especially teachers who were members of the Association of Secondary Teachers of Ireland – to assessing their own pupils for certification purposes and this resistance

[13] Regina Murphy "Classroom-Based Assessment in the Revised Primary Curriculum" in Áine Hyland (ed.) *Innovations in Assessment in Irish Education* University College Cork, 1998.

hardened during the four years of the project. At the time of writing, this issue has not yet been resolved. As a result, it has not proved possible at national level to introduce in the new CSPE programme, or in any other nationally certificated second level programme, elements of assessment which required the participation of the student's own teachers. The issue however, relates only to assessment for national certification purposes – teachers have been and continue to be involved on an ongoing basis, in assessing their pupils for purposes other than national certification. However, this resistance to school-based assessment for certification, introduced a challenge into this project which teachers in other countries would find difficult to understand, as teachers elsewhere are regularly involved in assessing their own pupils for certification purposes.

Before concluding this introduction, the following section has been included to provide the context within which this research was carried out. The section will be of particular relevance to overseas readers who might not be familiar with Ireland or with the Irish educational system.

Ireland – Historical, Social and Economic Context

Ireland is an island on the western periphery of Europe. Since 1921, the island has been divided politically into two parts. Ireland (or Éire in the Irish language) comprises about 80% of the island comprising 26 counties **–** the capital city of which is Dublin. Northern Ireland, which consists of six counties, is part of the United Kingdom (Great Britain) and its capital city is Belfast. References to "Ireland" in this report are to the Republic of Ireland (Éire). Ireland has two official languages – English and Irish (Gaelic) – and while about 20% of the population have some fluency in Irish, English is the commonly used language of the people.

The population of the country is about 3,626,000, almost 50% of whom are under 25 years of age. The east of the country is more densely populated than the west and a third of the inhabitants live in and around Dublin. Cork, the second largest city in the Republic of Ireland, where this project was located, is a port city situated on the south coast and has a population of about 150,000 people.

Ireland was originally an agricultural country with a large proportion of its population involved in farming. The pattern has changed dramatically in recent decades and the number engaged in agriculture has continued to fall throughout the nineties. In the past decade, there has been a substantial growth in employment, particularly in the technology area and in tourism. During the eighties, unemployment levels were high, reaching over 250,000 at one stage. Although unemployment has fallen very significantly since the mid 1990s, long-term unemployment is still a major problem.

Ireland has been a member of the European Community since 1973. Since then, the country has broadened its industrial and commercial base, from a strong dependence on agriculture and traditional industries to modern export-oriented industries in food processing, electronics, chemicals, pharmaceuticals, machinery, information and communications technology (particularly software) and services[14].

The Irish economy has experienced a period of rapid growth in recent years. The Government's budget deficit has been eliminated, interest rates and inflation are low, and exports have maintained a steady growth. As a member of the European Monetary Union (EMU), Ireland is one of the European countries which has adopted a common currency (the euro) since the beginning of 1999.

Irish Educational Context

The changing nature of Irish society and the dynamic development of the Irish economy are reflected in government educational policy priorities. The mission statement of the Department of Education and Science is "to ensure the provision of a comprehensive, cost-effective and accessible education system of the highest quality, as measured by international standards, which will

(a) Enable individuals to develop to their full potential as persons and to participate fully as citizens in society, and
(b) Contribute to social and economic development".

About one million children and young people are enrolled in full-time education in Ireland – about 50% at primary level; 40% in second level and further education; and about 10% in higher education.[15] Attendance in full-time education is compulsory from the age of 6 to the age of 15, but the upper age is shortly to be raised to 16. In practice, however, over 60% of four year olds and almost 90% of five year olds attend primary schools; and over 80% of young people complete second level education. In addition, there is widespread and growing provision for adult and continuing education in Ireland.

Public expenditure on education in Ireland accounts for 12.2% of total public expenditure (1990), compared to 11.8% for OECD countries as a whole. Total expenditure on education in Ireland is around 6% of GDP. In relative terms, per capita expenditure on primary education in Ireland is low – at less than $2,150 – well below the OECD mean. At secondary level, the situation is better with Ireland spending over

[14] D. Stokes and E. Watters, *Ireland: Vocational Education and Training – A Guide*. Leonardo da Vinci, 1997.
[15] Dept. of Education.

$3,500 per student, close to the OECD mean. At third level, Ireland spends around $7,000 per student, also close to the OECD mean[16].

There are about 426,000 pupils enrolled in just over 3,000 primary schools in Ireland. About 370,000 students are enrolled in the second level sector in Ireland, attending a total of about 770 publicly aided schools. 435 of these are secondary (academic) schools; 245 are vocational schools and the remainder (82) are comprehensive or community schools. Secondary schools, which educate about 60% of second level students, are privately owned and managed. The majority are owned and managed by religious communities and the remainder by Boards of Governors or individuals. Vocational education committees administer vocational schools, educating about 25% of all second-level students. The remaining 15% of pupils are enrolled in Community and Comprehensive schools, which are funded by the state.[17]

All second level pupils in Ireland follow the same three-year junior cycle curriculum regardless of whether they attend a secondary, vocational, community or comprehensive school. The Junior Certificate was introduced in 1989 to provide a single unified programme for students aged between 12 and 15 years of age and students sit a national public examination at the end of the three years cycle. Following the junior cycle, students proceed to a further two or three years in senior cycle. There is an optional one-year Transition Year Programme followed by a choice of three two-year Leaving Certificate programmes – the (established) Leaving Certificate; the Leaving Certificate Vocational Programme and the Leaving Certificate Applied. The (established) Leaving Certificate has traditionally had a strong academic bias, although within the past twenty years or so, it has included an increasing number of practical subjects. The Leaving Certificate Vocational Programme and the Leaving Certificate Applied were introduced within the past five years to provide more relevant and vocationally oriented programmes for the growing numbers of young people who are staying on in full-time education after the Junior Certificate.

Whereas, less than a quarter of the age cohort completed secondary education in Ireland thirty years ago, today over 80% do so. Over 85% of these proceed to some form of further or higher education or training. It is generally accepted that the quality of the education provided for students who are academically inclined is high and that the educational standards attained by most graduates of Irish second level schools and higher education institutions compares favourably with graduates of other OECD countries. The generally high educational achievements of young Irish graduates are a

[16] OECD, *Education at a Glance,* 1998.
[17] Dept. of Education, *Brief Description of the Irish Education System,* 1996.

factor in attracting multi-national industries to Ireland. However, problems still exist for less academically inclined pupils, for early school leavers, travelling (gypsy) families, and learners with disabilities. In the mid 1990s, it was estimated that over a quarter of young people in Ireland left school with inadequate or no qualifications.[18] Of a cohort of approximately 65,000

- 1,000 left with only primary education
- 2,200 left secondary school with no qualification
- 7,900 left with only the Junior Certificate examination
- 2,100 left with the Junior Certificate and a Vocational Preparation and Training qualification
- 7,200 left with an inadequate Leaving Certificate (i.e. less than five passes).

While there has been a slight decrease within the past five years in the number of young people who left school during or before the junior cycle, the overall proportion who leave school without sitting the Leaving Certificate has not changed. In 1997, the National Anti-Poverty Strategy set a target "to reduce early school leaving such that the percentage of those completing the senior cycle will increase to at least 90% by the year 2000 and 98% by the year 2007"[19]. But this target has not been achieved. Within the past five years, the government has given high priority to addressing the problem of early school leaving and of young people who are educationally disadvantaged. The National Economic and Social Forum stated in 1997 that "Early school leaving and youth unemployment are, in the Forum's opinion, among the most serious social and economic problems which this State must address".

There is an awareness that responding to the difficulties of the disadvantaged is a complex process, demanding considerable integration and collaboration between statutory and voluntary agencies and between educators and trainers and parents and their communities. The long-term aim is to create the conditions, in curricula, in methodologies, in resources and in support mechanisms, to retain the maximum possible number of young people in the schooling system as long as possible, so that they can achieve the levels of personal and skill development that will enable them to participate successfully in adult life..

Curriculum and Assessment in Ireland

Primary Level

[18] National Economic and Social Forum, *Early School Leavers and Youth Unemployment*, Forum Report No. 11, January 1997.

[19] Government of Ireland, *Sharing in Progress, National Anti-Poverty Strategy,* 1997.

Primary schools in Ireland cater for pupils between the ages of 4 and 12 years of age. The first two years are referred to as Junior and Senior Infants and the curriculum at this level emphasises informality and recognises the importance of play and its contribution to the child's learning experience. From 6 to 12 years of age, pupils progress from First to Sixth Class, completing sixth Class at about the age of 12. For the past thirty years, the primary school curriculum has been based on child-centred principles, emphasising the principles of guided discovery, of activity based learning and individual difference. There have been no national testing or national examinations at primary level since 1967, although most schools and teachers administer standardised reading and mathematics tests at defined intervals throughout a pupils' schooling.

The Primary School Curriculum has recently been revised (1999). While the revised curriculum recognises the importance of literacy and numeracy, it focuses in a fundamental way on the child as a learner, building on "the child's sense of wonder at the complexity of the world, the desire to understand it, and the spontaneous impetus to explore it through play". The curriculum is based on modern theories of learning and recognises that "conceptual development is not necessarily a linear process. It may take place on a number of planes simultaneously or through the making of an intuitive leap". It sees the child as an active agent in his or her own learning and provides opportunities for active engagement in a wide range of learning experiences". The revised curriculum reflects many of the findings which have emerged from recent educational research, including the findings of Project Zero. This will be further referred to in the concluding chapter of this report.

Second Level – Junior Cycle

The junior cycle of the second level curriculum is a three year cycle, at the end of which pupils sit a national public examination called the Junior Certificate Examination, typically taking seven or eight subjects. All pupils sit an examination in Irish, English and Mathematics; the majority take History and Geography; a modern continental language, (French or German or Spanish or Italian) and science. There is a further range of over twenty subjects which pupils can opt to study – these include Music, Art, Technology, Business Studies, and many others. The primary objective of the Junior Certificate programme is to enable students to complete a broad, balanced and coherent course of study in a variety of curricular areas. The programme seeks to extend and deepen the quality of students' educational experience in terms of knowledge, understanding, skills and competencies and to prepare them for further study in senior cycle.

The Junior Certificate School Programme is an alternative approach to the Junior Certificate. It is specifically aimed at the potential early school leaver and for other

students who have difficulty in coping with the junior cycle curriculum. In this programme, the teachers adapt the curriculum to make the whole school experience more relevant and meaningful for students at risk. The programme emphasises numeracy and literacy as well as personal and social needs. The emphasis is on the process of learning rather than on a terminal examination, on what students can do rather than on what they can't do. A system of profiling is used to provide affirmation of learning for pupils on this programme.

Senior Cycle

Students may spend up to three years in senior cycle. They may follow a two-year Leaving Certificate programme immediately after Junior Certificate, or they may opt to follow a Transition Year programme before a two-year Leaving Certificate. A student may follow the (established) Leaving Certificate course or the Leaving Certificate Vocational Programme or the Leaving Certificate Applied.

The **Transition Year Programme** has as its overall mission the promotion of the holistic development of students and their preparation for their role as citizens. Its aims are:

- to give students space and time to mature humanly, through the use of an interdisciplinary approach to curriculum and of experiential learning opportunities, free from the pressure of public examinations
- to improve students' learning strategies
- to give students an opportunity to experience the world of work and to reflect on that experience.

Teachers of Transition Year have greater flexibility and professional opportunities to design curricula, modules and short courses which are more tailored to the specific needs of their students than any other year of post-primary education. Parents, the community and local enterprise are all encouraged to support students during Transition Year and so contribute to an education which addresses the demands and pleasures of life, work, sport and leisure. There is growing evidence that students who have taken the Transition Year Programme are more self-reliant learners when they enter third-level education than their peers.

The majority of Senior Cycle students choose the **established Leaving Certificate,** taking subjects at either Foundation[20], Ordinary or Higher Level. Students may choose from a total of 31 subjects. There are written terminal examinations for all subjects. In addition, there are oral and aural examinations for Gaeilge and modern languages; practical and project tests in Music, Art, Engineering and Construction Studies; and a number of subjects

– including Geography and History – allow for the option of allocating some marks to project or field work. However, this option is only rarely availed of.

The **Leaving Certificate Vocational Programme** is a two-year programme which comprises groupings of the subjects of the established Leaving Certificate Programme with some additional modules. The programme was first introduced in 1989. In 1994, it was expanded to broaden the choice of subjects and to strengthen the vocational content of the programme by including three link modules on Enterprise Education, Preparation for Work and Work Experience. The activities involved in the Link Modules include the organisation and running of mini-enterprises, visits to businesses and industry and investigations of the local community. The Link Modules are assessed by the National Council for Vocational Awards. The assessment comprises two elements: Written Examination (40% of marks) and Portfolio of Coursework (60% of marks). Leaving Certificate Vocational Programme students receive the same certificate as established Leaving Certificate students. In addition their Certificate includes a statement of the results of the Link Modules (Pass, Merit, Distinction)

The Leaving Certificate Applied is intended to meet the needs of those students who are not adequately catered for by other Leaving Certificate Programmes. It is a self-contained two year programme, which is pupil-centred and involves a cross-curricular approach rather than a subject-based structure. Student achievement and performance are assessed in a number of ways. Students are required to complete a number of modules, each module representing a block of 40 hours. In order to be awarded credit each student must complete each module by attending the classes and out of school activities related to the module and by completing key assignments related to the module. This accounts at present for 40% of the total marks. Performance assessment of student tasks accounts for a further 27% of the total marks. Students complete seven tasks in the course of the two years. The tasks are assessed by external examiners appointed by the Department of Education and Science. These tasks may be in a variety of formats – written, audio, video, artefact etc. Each student is also required to produce a report on the process of completing the task. This report may be incorporated in the evidence of task performance.

In addition to the task assessments and ongoing accreditation for the completion of modules, students sit external examinations accounting for the remaining 33% of the total marks at the end of Year 2 in the following areas:

- English and Communication (oral, aural and written)
- Two Vocational Specialisms

[20] Foundation level is available in two subjects - Gaeilge and Mathematics.

- Mathematical Applications
- Language (Gaeilge Chumarsáideach and Modern European Languages -oral, aural and written)
- Social Education.

The Leaving Certificate Applied is offered in over 200 schools and centres. As of June 1999, approximately 8,000 students were enrolled on the programme.

The word "Intelligence" in the Irish language

Chapter 1 of this report contains a review of the literature on intelligence. In that chapter the point is made that the meaning and the connotations of the word "intelligent" vary from culture to culture and from generation to generation. A person who is regarded as intelligent in one culture is not necessarily so regarded in another. For example, if book learning is held in high esteem in a culture, an intelligent person is likely to be deemed to be a person who has had many years of formal schooling. In some tribal or ethnic communities, the quiet reflective person whose every word is measured and ponderous, is regarded as the intelligent person. Conversely, in some modern contexts, the person who reacts and responds to an issue speedily (and perhaps noisily) is often regarded as the intelligent person (for example, buyers on the Stock Exchange). In a farming or sea-faring environment, the intelligent person might well be regarded as the person who is in tune with the environment and with the climate.

In Ireland, academic scholarship has been held in high regard since the early Christian period and a person of scholarship was likely to be seen as an intelligent person. Following the Christianisation of the country from the fourth century A.D. onwards, a long tradition of oral culture was paralleled by a new found interest in scribal culture. Many of the young men who became monks in the many monasteries of Ireland, were involved in transcribing the Christian Gospels – leaving a legacy of historically impressive books such as the Book of Kells, the Book of Durrow and many other manuscripts. These manuscripts were beautifully illustrated – thus developing within the country an interest and expertise in art. Wood and stone sculptures proliferated and silver and gold smithing developed in the creation of religious vessels and artefacts. Artists who were involved in creating these artefacts were undoubtedly regarded as "intelligent" within their circles. Ireland was known as the Island of Saints and Scholars during the final centuries of the first millennium.

Following the invasions of the Vikings and the Normans in the late centuries of the first millennium and the early centuries of the second millennium, the monastic tradition died out. However, the interest in more academic forms of learning remained and is evident in the work of the indigenous Irish bards who kept a tradition of poetry and

writing alive until well into the Middle Ages. Hence it can be seen that academic learning has a long history in Ireland and within that tradition, intelligence and scholarship might well have been regarded as synonymous.

However, as an island country, Ireland also has a long agricultural and sea-faring tradition. The so-called "intelligent" person working on the land or on the sea was not necessarily a person of book learning. He was as likely to be a "wise" man as a "learned" man – a man who was sensitive to the elements; who was successful in harvesting his land or the surrounding waters.

Given the diversity of views as to what might constitute intelligence in Ireland, it is not surprising that there is no one word for intelligence in the Irish language. The English word "intelligent" can be translated into a number of different words– depending on the context in which the word is being used. The word "éirimiúil is probably the word which most closely approximates the English word "intelligent" but it is not often used, and rarely within a schooling context. The word "cliste" is probably most often used to denote intelligence or cleverness. "Duine Cliste" is a "clever" person – clever with positive connotations – but that intelligence is not confined to academic learning. It can encompass creativity, talent and skills in a wide range of areas. "Duine Glic", on the other hand, is also a clever person, but he/she is usually intelligent in pursuit of his/her own interests. That intelligence might be manifest in the evasion of payment of debt or taxes; or in escaping from deserved punishment. Irish myths and legends contain many examples of the "duine glic" who through his wiles and often his discursive skills escaped from potentially tricky situations. "Duine Críonna" is a wise or sagacious person – worldly wise from the experience of many years. In ancient Irish myths and legends, such a person was often depicted as a reflective old man or woman, looked up to by neighbours and called on to help to settle local disputes. Yet another word which infers intelligence in the Irish language, is the word "stuama" - "duine stuama" is solid, reliable and sensible - an important form of intelligence in certain situations. In addition to the above words, modern dictionary translations of the word intelligent include the words "intleachtúil" (derived from the English word intellectual) and "tuisceanach"- which translated directly means "understanding". This last word is of particular interest in the context of teaching for understanding.

In the context of the history of Irish education, it is of interest to note that intelligence was regarded in the late 19th and early 20th century as a trait that could be developed and stimulated in a young person by an appropriate curriculum and by active learning. Reports of school inspectors at the turn of the century commented on the positive effects on children's "intelligence" of the Revised (1900) Programme for National

Instruction. This programme had replaced the Results Programme of the late 19th century, which had encouraged rote learning and placed a heavy emphasis on the three Rs. The Revised Programme, on the other hand, influenced by Froebellian principles, encouraged the children to be active agents in their own learning and to learn by doing. Teachers were seen as facilitators of learning rather than purveyors of knowledge. Some school inspectors maintained that as a result of this approach, an improvement was discernible "in the children's intelligence" – thus indicating their view that intelligence was not a fixed capacity, as would subsequently be argued in other countries.

While educational policy makers in Ireland in the mid decades of the twentieth century were undoubtedly aware of IQ or similar tests within the education systems of other western countries, such tests did not feature in the Irish schooling system. IQ tests capable of being administered through the Irish language were never developed – this alone would have militated against their use in Ireland following Independence in 1922, when there was considerable emphasis on the Irish language within education. Policy-makers in newly independent Ireland were also suspicious of philosophies and developments which were culturally alien and this was undoubtedly a barrier to the importation and use of IQ and other tests developed abroad.

However, national examinations played an important part in Irish education both before and after Independence in 1922. At primary level, a new national examination was introduced in 1929 for pupils in sixth class (about 12 or 13 years of age) and in 1943 this examination became compulsory. The Primary Certificate examination consisted of a written examination, initially in all the subjects of the primary curriculum, but after 1943 it covered only Irish, English and Arithmetic. It was abolished in 1967 when free second level education was introduced. During the lifetime of the Primary Certificate, pupils were not allowed to transfer to second level education unless they had passed this, or an equivalent examination.

At second level, the three national examinations of the Intermediate Board which existed from 1878 to 1924 (Junior, Middle and Senior Grade examinations) were replaced in 1924 by two national examinations, the Intermediate and the Leaving Certificate. These continued to operate until 1989, when the Intermediate Certificate was replaced by the Junior Certificate examinations. The issue of examinations and testing in Ireland and the perception of intelligence held by Irish teachers will be discussed further in Chapter 1 of this report.

Outline of this Report

Chapter 1 of the report provides a comprehensive literature review on intelligence, the theory of multiple intelligences, on teaching for understanding and on issues relating to assessment. This review was written by Pat Naughton. The progress of the MI action research project from 1996 to 1999 is chronicled and discussed in Chapters 2 and 3 of this report, written respectively by Marie Flynn and Pat Naughton. In Chapter 4 Pat Naughton also presents an overview of issues and attitudes at the interface between primary and second-level education which were articulated during the course of the project. Chapter 5 contains a description and analysis by Marian McCarthy of the application of MI theory and the Teaching for Understanding framework to Civic, Social and Political Education, gleaned from the participating teachers and also from the teachers who had enrolled on the Higher Diploma course in Curriculum Studies (CSPE). During the three years of the project about fifteen teachers per annum were involved in this course and their reflections and portfolios provide a rich source of data for this analysis. In Chapter 6, Anne Rath considers the implications of reflective journalling and its impact on the teachers involved in the project. The concluding chapter draws together the findings of the project and considers its effects on Irish education as a whole. The Appendix includes a list of seminars, workshops and lectures presented by some members of the MI team as part of the dissemination process of the Project. This is an indicative sample and is not intended to be a conclusive list. The Appendix also includes a comprehensive bibliography on Multiple Intelligences,, on Teaching for Understanding and on Assessment.

CHAPTER 1

The Debate on Intelligence; Multiple Intelligences; Teaching for Understanding; and Assessment

Pat Naughton

SECTION 1: THE DEBATE ON INTELLIGENCE

Introduction

Few topics generate as much controversy as that of intelligence, its nature and how it may be defined, its occurrence and measurability, and its application and relevance to human life and living. Deeper understanding of human intelligence has been sought through the centuries. In ancient Greece, the philosophers sought to understand the nature of wisdom, and the links between the intellect and the body. The hypothesis that people are born with innate knowledge also dates from this time. These parameters of debate about human intelligence were more clearly defined by the rationalist/ empiricist debate of the 17th century and onwards. In fact, it can be claimed that Socrates and other philosophers helped form the view of intelligence that is still prevalent today, i.e. the capacity for abstract reasoning in language and mathematics (Gardner, Kornhaber and Wake, 1996).

Arguably, the same essential questions about the nature of intelligence continue to be debated, aided in recent times by scientific understandings, and by biological research. Through research in a range of disciplines, the twentieth century has witnessed a quickening of pace in studies of intelligence and an increase in their complexity. Thus, psychologists, geneticists, sociologists, neurologists, teachers and anthropologists have been among those who believe that fuller understanding of the nature of human intelligence has the capacity to advance human progress.

Definitions of intelligence vary considerably, but in Western societies, intelligence is generally regarded as a capability to understand abstract concepts and solve problems logically. For these purposes, the intelligent person is commonly assumed to have highly-developed skills of literacy and numeracy, and to succeed in linguistic and logical learning. “Intelligent” people are referred to as “bright”, “quick-witted”, “clever”, “able”, “sharp” and “smart”. Conversely, the terms “weak”, “slow”, “dim”, “dull” and other pejorative terms are applied to those deemed to lack the quality called intelligence, especially in schooling contexts. For the most part, intelligence is believed to reside in the head of the individual. Intelligence when manifested as

'practical' ability is often termed a ‘talent’, a ‘gift’ or a ‘skill’, but not an ‘intelligence’. However, across the world, understandings of intelligence are many and varied:

> [N]otions about intelligence vary over time, across cultures, and even within cultures. Definitions of intelligence depend on whom you ask, their methods and levels of study, and their values and beliefs. Definitions are associated with the needs and purposes of different cultures. In various traditional cultures, intelligence, or "using one's mind well" is often linked to skill in dealing with other people . . . Among Western designers of intelligence tests, definitions have emphasised an ability to solve abstract problems (Gardner, Kornhaber and Wake, 1996: 29).

The enormous scale of the literature on theories of intelligence and associated research renders a detailed review impractical. In the present review, the principal issues that surround debates on intelligence will be considered as a framework for understanding the emergence of pluralist theories of intelligence, with a particular focus on Howard Gardner's Theory of Multiple Intelligences (1983). The wider research context from which MI theory evolved in the US is examined as is the current interest in understanding as an educational goal. In conclusion, the relevance of these discussions to the Irish educational context is considered, and the potential application of MI theory and teaching for understanding in the Irish education system is proposed as a research focus for the project.

Binet's Intelligence Tests

An appropriate initial focus for a review of literature on intelligence may well be the period at the end of the nineteenth century – Paris around 1900 is chosen by a number of writers on the subject (Armstrong, 1994; Gipps and Murphy, 1994; Perkins, 1995; Gardner, Kornhaber and Wake, 1996). This place and point in time seems suitable because it marked the beginning of the "intelligence revolution", the period when it seemed at last possible to measure human intelligence accurately, to predict the intellectual development of individuals, and to utilise such measures to rank people in suitability for their social and vocational niches. Psychologist Alfred Binet, along with Théodore Simon, is credited with launching the intelligence revolution with his intelligence tests, devised to predict the success or failure of children in Paris schools (Gipps and Murphy, 1994). The Binet-Simon tests computed a “mental age” for children. It was William Stern, a German psychologist, who, using a mathematical formula, later devised the “intelligence quotient” or IQ, which, in the popular mind, became synonymous with intelligence.

However, attempts to measure human ability, "mental aptitude", and "intelligence" had been underway for decades before this, being spurred on by Darwin's studies of human evolution, including his views on natural selection and inheritance (see discussion in Gardner et al., 1996: 39-41). Francis Galton, a relative of Darwin's, was among those who believed that the key to enhancing the human race's mental capacities was through eugenics, i.e. selective breeding. In the 1860s, Galton also promoted the idea that intelligence is inherited, and he used mathematical principles to explain the distribution of intelligence in an early form of the 'bell curve'. While Galton was exploring intelligence through the study of human sensory perception, Binet was examining intelligence by looking at higher-order thinking skills such as comprehension, judgement, reasoning and invention (Gardner et al., 1996: 47).

Despite the many criticisms that have been directed at the notion of IQ as a measure of intelligence, Perkins (1995) acknowledges the contribution of Binet to our understanding of intelligence, pointing out that it was others, not Binet himself, who narrowed the interpretation of scores on intelligence tests. In fact, says Perkins, Binet looked to a great variety of kinds of human behaviour to gauge intelligence, and maintained that intelligence involved a good deal more than that captured by the test score:

> . . . [Binet] proceeded with a remarkable pragmatism. He figured out a way to measure intelligence. However, he held back from the obvious conclusion - intelligence as a pure *essence* measured out more to some people and less to others. He left the door open for learnable intelligence. He focused simply on how one could put a number to a phenomenon - the phenomenon of intelligent behaviour (Perkins, 1995: 23-4).

Gardner et al. (1996) also defend Binet against ill-founded criticism, pointing out that Binet attempted to improve the learning opportunities of children through the use of remedial programmes:

> He undertook to measure ability because he believed that better educational decisions could be made with such information. . . . Though he assigned a number to a child's performance, Binet never believed intelligence was an unchanging or fixed attribute of a person, and he did not argue that intelligence was inherited (p.51).

Yet, the apparent simplicity of the IQ measure proved alluring to wider audiences. Administrators in different institutions in several countries saw in intelligence tests

an efficient and objective means of selection of people for various roles. The tests came to be seen as accurate predictors of scholastic success. Versions of these tests were developed for military recruits in the United States, designed to identify those with leadership potential – it was believed that those with high scores would make good leaders. As the century advanced, the IQ test became popular the world over, appearing in several forms, such as the Stanford-Binet Intelligence Scales, the Wechsler Intelligence Scales, Raven's Progressive Matrices, and others adapted to fit various selection and ranking purposes in a diversity of educational and vocational spheres (Gardner et al., 1996: 79-84). Yet despite such adaptation, Sternberg (1998) claims that "the content of intelligence tests differs little from that used at the turn of the century" (p.14).

The promotion of an "essentialist" conception of intelligence and its apparent measurability influenced the popular public view of intelligence which persists to this day. It was reinforced by many psychologists and psychometricians during the century, among them H. H. Goddard, Lewis M. Terman, Charles Spearman, A. R. Jensen and Cyril Burt, and later by writers such as Richard Herrnstein and Charles Murray (as in *The Bell Curve*, 1994), and by Hans Eysenck. One of the features of this view of intelligence is that it is fixed and immutable. Despite much research indicating that one's measured intelligence level can change over time, many still cling to the view that the intelligence one has is at a set level. However, the idea that intelligence can be learned, developed (and improved in IQ terms) has become part of modern thinking about intelligence (Perkins, 1995)

Limitations of the intelligence quotient measure

Many criticisms have been made of the business of intelligence testing. Among these are the following claims: (a) the tests do not truly measure intelligence; (b) the tests are biased and unfair in many respects; (c) IQ scores have been put to a variety of uses in managing, controlling and differentiating between individuals and groups in society, and that some of these purposes have been immoral.

Opinion on whether IQ tests actually do measure intelligence depends on what one means by intelligence, and because there is no consensual understanding of what intelligence is, the real value of the IQ score is open to debate. In the Irish educational context, Kathleen Lynch (1992) has identified what she holds to be the shortcomings in the nature, conduct and use of tests to measure intelligence. She relates these to "popular ideological assumptions" regarding the nature of intelligence and the implications of these assumptions for education. Lynch points out that most standardised tests, including IQ-type tests, are predominantly verbal

tests, and that consequently, people who are not verbally proficient cannot be defined as intelligent by them.

The actual performances measured by a typical IQ test are almost always acts of verbal/ linguistic and logical/ mathematical reasoning; there may in addition be components which test visual/ spatial capacity. This has led to the common criticism that intelligence tests actually measure only a portion of human abilities, while a wide range of other human competencies is disregarded. It has been suggested that what the IQ test does measure is the person's ability to do IQ tests. More seriously, it can be said that intelligence has come to mean "that which the IQ test measures". Furthermore, some consider the representation of the capabilities of any person in the form of a numerical score as artificial and constraining.

The decontextualised nature of much intelligence testing, and of traditional examinations, is highlighted by Lynch and by others (Darling-Hammond, Ancess and Falk, 1995; Hargreaves, Earl and Ryan, 1996; Wiggins, 1993; Gardner, 1991b). Such tests, Lynch proposes, cannot determine how someone will perform in real-life situations, as they are artificial in nature, and try to isolate cognitive skills and measure them independently of emotional and behavioural responses. Gardner et al. (1996) have shown how Binet's original tests, which included a range of practical tasks, were reduced to short-answer examinations that "were not grounded in any area of expertise" (p.20). One of the factors that led to this was the adaptation, by American psychologists, of Binet's tests to test military recruits in World War I. "In the United States, performance on short-answer tests came to represent intelligence" (Gardner et al., 1996: 20).

The validity of intelligence tests has also been called into question (Lynch, 1992; Gipps and Murphy, 1994; Perkins, 1995). Besides the cultural biases that the tests may contain, their predictive validity is also critiqued. While stating that they do have a certain predictive validity in relation to education and industry, Perkins emphasises that the correlations are not overwhelming (pp. 61-4). Lynch believes that in education, the tests are good predictors of school performance only because the tests were originally standardised with reference to teachers' assessment of pupils' performance (p.138). Gipps and Murphy (1994) say that many tests in the past were standardised with populations that were not truly representative of the overall population, and sometimes tests standardised in one country were used in another, without being restandardised (p.73). In addition, it has been pointed out that there are no theoretically-based criteria for the selection of test items, i.e. which relate to the definition of intelligence (Gipps and Murphy, 1994: 72)

The existence of a general intelligence

Many believe that intelligence tests measure a general property of intelligence - originally termed "g" by Charles Spearman in 1904 – and that this is the measure of the person's ability that will largely determine his or her future life possibilities. Spearman, a contemporary of Binet, wished to quantify the positive correlation between the scores a person got on a variety of tasks. In other words, when people did well on one task, they were likely to do well on others. Spearman used the technique of factor analysis to allow the common trend between task scores to be given a number. "The emergent trend toward better or worse performance Spearman dubbed *g*, for *general intelligence*" (Perkins, 1995: 43). The phenomenon of *g* is believed to account for 50 or 60 per cent of the variation across people and across different kinds of tests – in other words, the essence called "general intelligence" – the "stuff" that people either have or haven't – is a large determinant of how people perform. This single general factor is described thus by Perkins:

> It's as though all the tasks down deep called on one and the same psychological reservoir, with some people's reservoir fuller than others (ibid., p.43)

Gardner (1993; 1999) does not dispute the existence of *g*, but argues that it is essentially a measure of linguistic and logical intelligence and therefore is bound to be predictive of scholastic success; however, he disputes its predictive value for non-school contexts. Furthermore, Gardner suggests that it is "a particular test-taking skill . . . that contributes to the measured individual differences and the correlations that result" (Gardner and Walters, 1993: 39). This is countered by Gottfredson (1998) who argues strongly for *g* - she suggests that *g* and IQ can be used interchangeably - and that IQ measures do predict success or failure in many areas of life:

> No matter their form or content, tests of mental skills invariably point to the existence of a global factor that permeates all aspects of cognition. And this factor seems to have considerable influence on a person's practical quality of life. Intelligence as measured by IQ tests is the single most effective predictor known of individual performance at school and on the job. It also predicts many other aspects of well-being, including a person's chances of divorcing, dropping out of high school, being unemployed or having illegitimate children (p.24)

Herrnstein and Murray similarly claimed (in *The Bell Curve*, 1994) that a number of "social ills" are connected to IQ, such as poverty, crime and chronic unemployment. Among those affected by such ills, there is "a disproportionate presence of

individuals of low IQ" (Perkins, 1995). Perkins, echoing Herrnstein and Murray, is quick to emphasise that this is not to label people of low IQ as being somehow destined for social misfortune, inadequacy or even deviance, but rather to note that "low IQ is a risk factor". Beardsley (1998) quotes research that contradicts the views of Herrnstein and Murray and of Gottfredson above (on the importance of IQ in predicting life chances) – this research claims that family background and other environmental factors are significant determinants, along with IQ.

Fairness of intelligence tests

Lynch (1992) has identified some features of typical intelligence tests that bring their fairness into question. Some items are social-class biased. Students from well-resourced and ambitious families are at an advantage in many ways when undergoing these tests – their homes are likely to be rich in verbal terms for instance, and they are more likely to purchase coaching towards tests for their children. The public format of the tests allows students to 'practice' for them. Students sitting the tests can be affected in their performance by extraneous factors such as poor nutrition, state of health, emotional conflicts, poor motivation, tiredness, etc.

Gipps and Murphy (1994) give a flavour of the cultural bias they see in tests such as the Stanford-Binet and the Wechsler Scales:

> The vocabulary sub-tests ask for meanings of words like catacomb and parterre; comprehension items include 'why is it generally better to give money to an organised charity than to a street beggar?'; similarities ask 'what do the words liberty and justice have in common?'. Items such as these clearly depend on knowledge and values which are culture and social-class related (p.72).

Perkins (1995) provides another example from the Wechsler Scales "Who wrote *Faust*?". He goes on to point out that the cultural favouritism that IQ tests confer on some students is due simply to that culture's values

> Different cultures might encourage different attitudes and practices related to thinking and learning. For instance Jewish people traditionally lay great emphasis on learning and scholarship. In many Asian cultures, parents urge youngsters to study hard in school and support their school work assiduously (p.60).

Perkins suggests that it isn't unfair that students from these families do well on intelligence tests – since they do exhibit more of the kind of performances demanded by the tests. However, he acknowledges that the kind of thinking rewarded by the

tests “counts for more in practical terms in some cultures than in others”, and enters this caveat:

> IQ tests look to be culture fair, in that when well-designed and sensitively administered, they test more or less what they are supposed to. This does not mean that what they test is what everyone in every culture needs (p.61).

All in the genes?

In arguments about IQ, common claims are that intelligence is “in our brains”, and that this brain matter is genetically inherited. Researchers such as Herrnstein and Murray concluded that the basis of intelligence is in “neural efficiency”. This implies that one's intelligence is essentially in the matter of one's brain, and herein must lie “the very stuff of intelligence” (Perkins, 1995: 52). It is accepted nowadays that intelligent human behaviour cannot occur without the "grey matter" of the brain, but increasingly the view is that it also much more than efficient neuronal activity. Closely allied to this belief is the claim that the neural content of intelligence is genetically inherited, in the same way as many physical characteristics. The implications of this are far-reaching, the most significant being that we are born with a certain ‘amount’ of intelligence. Hereditarians hold that we inherit our intelligence and that we should accept this as our endowment. Furthermore, this endowment sets limits on how intelligent we can ever become. The authors of *The Bell Curve* argued that educational interventions that sought to increase IQ or “make children smarter” were doomed to failure.

Those who oppose this view point to the unresolved issue of how much of our intelligent behaviour results from environmental factors, including education. While many argue that life experience itself develops the intelligence we inherit, even committed hereditarians accept that environment plays a big part in forming our intelligence. According to Gardner, human intelligences at birth are “raw biological potentials” (1993b), or “a set of uncommitted neurobiological potentials” (Gardner, et al., 1998). However, he is one of those who stress the role of environment in developing these potentials. (Gardner’s views on intelligence are discussed more fully below).

It would appear that the emphasis of popular belief has hovered between a largely neurobiological basis of intelligence and an environmentally-influenced development of intelligence. Most writers and researchers keep a somewhat open mind, given ongoing programmes of research whose findings may swing the emphasis in either

direction. All that can be said for certain is that both elements will retain their appeal, regardless of the prevailing orthodoxy.

Uses and abuses of IQ testing

The widely accepted meaning of IQ scores as indicators of people's intellectual capabilities has led to many uses and abuses of these measures of intelligence. Perkins has referred to "IQ the number" and "IQ the empire", explaining that while the score merely indicates "the trend of a person towards more or less intelligent behaviour across a diversity of circumstances", "IQ the empire" stands on several further interpretations of what that number means (1995: 42). The power of these interpretations to determine the lives of many people over the twentieth century is disturbing. For example, Perkins tells how

> . . Spearman's conception of intelligence as a single essence took hold and . . . invited invidious comparisons of individuals, races and ethnic groups. . . Many psychologists [maintained] that fundamental biological factors endow different races with more or less intelligence. This supported systematic efforts to discriminate among different populations because of supposed contrasts in intellectual capacity (ibid., p.44)

A significant impetus was given to the idea that intelligence varied across racial and ethnic populations after the large-scale testing of soldiers in the US during World War I. Gardner et al. (1996) point out that

> published analyses of the test data found that cultural and racial groups differed in their level of achievement on the tests. These findings are not surprising. It was evident from the Army's report that groups differed with respect to education, health, English language skills, and familiarity with American culture . . . Each of these differences could affect test performance. Nevertheless, the Army psychologists believed their tests measured an innate and inherited trait and therefore asserted that the main reason the scores differed among groups was that the groups differed in their levels of intelligence (p.23).

Gipps and Murphy (1994) tell how H. H. Goddard used the Binet test "to identify the feeble-minded so as to limit their reproduction and also to prevent their immigration into the USA" – some of Goddard's testing was carried out at Ellis Island, the immigration processing centre. An extreme example of the abuse of intelligence tests

recounted by Gipps and Murphy was the sterilisation of low IQ women and girls in the United States. Gardner et al. (1996) tell how IQ testing and the narrow interpretation of its results was used to justify the sterilisation of thousands of women, of prison inmates and of residents of homes for the "mentally deficient" in the US during the 1920s and 1930s in particular. Perkins tells how the Army tests were used to propagate segregation and discrimination by limiting access of Blacks to institutions of higher education (p.45). Thus the belief that some races or groups of people could be labelled as deficient in terms of intelligence was used to justify repressive social control practices that had never been intended by Binet, although their development had been feared by him.

Intelligence, ability and schooling

Perkins (1995) comments on how the misrepresentation of Binet's work has influenced educational practices over the years:

> Binet did not want to jump from the fact that some people seemed to behave more intelligently than others to the presumption that there was an essence, a single mental resource, that some people had more of and some less. . . . With laudable prescience, Binet anticipated some of the mischief that the concept of intelligence might do. He feared it would offer educators the excuse to ignore the plight of poorly performing students on the grounds that they lacked the intelligence to do better. It might also give educators grounds for dismissing undermotivation and behaviour problems as symptoms of low intelligence. As it turned out Binet was right about these risks (p.29).

The relationship between intelligence and ability

At the heart of this discussion is the relationship in the public mind between intelligence and ability. The essentialist conception of intelligence as a genetically-inherited, quantifiable entity has become equated in many countries with 'ability', as the person's capacity to learn. If *intelligence* equals *ability*, then the learning potential of every person is limited by their measured level of intelligence. Lynch (1992) and others (Perkins, 1995; Gipps and Murphy, 1994) have emphasised the profound implications of this conceptualisation of intelligence for the educational opportunities of children.

> A narrow view of intelligence seriously circumscribes one's vision of what is educationally possible. If an education system defines intelligence as being primarily verbal and / or mathematical, then it

> condemns those who do not have these abilities to a continuous experience of negativity and failure in schools (Lynch, 1992: 139).
>
> The concept of intelligence as innate ability is a very powerful one and IQ tests have been, and still are, used to allocate children to various forms of educational provision: special education, selective schools, comprehensive schools which seek to balance their intake by ability, even to stream within schools. This allocation usually carries with it major implications for the individual's life chances and therefore IQ tests are highly significant (Gipps and Murphy, 1994: 75).

Many students (and teachers) believe that academic ability *is* intelligence, and use the terms *intelligence* and *ability* interchangeably. Of significance here also is research into the views of young adolescents on their own 'ability' (Anderman and Maehr, 1994). By the age of eleven or twelve, young people have formed beliefs about the relationship between ability, effort and attainment. They have by this age come to believe that ability is a fixed entity, and that consequently, what one can achieve is constrained, regardless of effort. The implications of such beliefs for students' motivation and commitment are obvious.

Many aspects of the organisation of learning in schools are influenced by this equation of ability with intelligence. Principal among these are the expectations of teachers and others concerning the learning potential of students; the restriction of students' access to various kinds of knowledge; the premature channelling of students into narrow vocational routes, based upon assessments of their abilities; the streaming or tracking of students into learning environments deemed suitable to their abilities, such environments including remedial or compensatory learning programmes; the allocation of particular resources to students of assessed higher ability as being more productive educational investment (Tomlinson, 1982; Oakes, 1985; Hannan and Boyle, 1988). In Ireland, assessments of academic ability are frequently used to allocate students to streams in second-level schools. The underlying assumption is that a child's ability is fixed, and is as measured in these assessments – some schools use IQ tests to assist the ranking process. Moving between streams is difficult and infrequent. It has been found in various international studies internationally that working-class children are over-represented in lower streams (Drudy and Lynch, 1993).

The idea that intelligence is a fixed and immutable quantity is also highly relevant when organising schools' learning programmes. If intelligence is immutable, then the

basis of many educational intervention programmes is questionable. Arthur Jensen in 1969 declared that "compensatory education has been tried and apparently it has failed" (Jensen, 1969: 2). Jensen's criticisms were aimed at American programmes such as Headstart, which sought to narrow the gap in achievement between children from a range of racial and social groups. He basically claimed that the programmes' efforts to raise the IQ of minority groups were doomed to failure – that the designers of the programmes were wrong in attributing learning difficulties in such children to social/ environmental factors. The problem of low performance, he asserted, was essentially a problem of genetically-inherited low IQ.

The race-related components of Jensen's claims stirred great controversy, especially his proposal that the education of Black youngsters should emphasise memorisation and rote teaching and learning, rather than abstract problem-solving (Gardner et al., 1996). It has been pointed out that many of Jensen's arguments about IQ reappeared in Herrnstein and Murray's book *The Bell Curve.* The writers in this case believed that many of America's social ills involved those of lower IQ. In response, Gardner et al. (1996) – and many other critics – have pointed out that links between crime, poverty and psychometric intelligence are not clearly identified. However, Perkins (1995) believes that "the basic connections between IQ and social ills profiled in *The Bell Curve* deserve attention" (p.62).

In a more general way, Perkins sums up the legacy of IQ:

> . . . . what has the empire of IQ become? It is the vast and thriving testing industry based on IQ that extracts large profits from the educational community, delivers some genuine services on the positive side, and fosters a conception of intelligence as fixed and intractable (p.66-7).

In sum, then, in any culture, the prevailing definition of what intelligence actually is determines to a significant degree the nature of educational provision in that culture or society. Who is deemed to be intelligent, whether intelligence is thought to be innate or acquired (or both), and whether intelligence can be increased or "learned" – these are key considerations in structuring educational opportunities for young people.

Ireland: Education and intelligence

Notwithstanding the pints raised in the introduction to this report, attitudes in Ireland towards intelligence tend towards the "innate" model:

> . . there is evidence from the writings of Irish educationalists that many hold a narrow view of what constitutes human ability; they tend to define ability in essentialist terms. This means that intelligence is defined as a given essence that some have and others have not. It is regarded as quantifiable (in terms of an IQ score), fixed over time, and in many cases innate . . . one cannot improve on the 'amount' of it one possesses (Drudy and Lynch, 1993: 233-4).

In addition, when Fontes and Kellaghan (1983) compared the beliefs of Irish and American teachers about intelligence, they found that Irish teachers believed more strongly in innate intelligence. (Some may even have been influenced by Eysenck's (1971) claim that the Irish show low IQ levels due to their experience of oppression as a race). These conclusions should lead to concern about the extent to which such beliefs about intelligence influence the organisation and provision of schooling in Ireland.

A further consequence of belief in innate fixed levels of intelligence is that the responsibility for educational failure can be attributed to the individual, not to the system (Lynch, 1992). The same thinking can unproblematically justify streaming and banding practices in schools, since the boundaries of individual potential have already been set by assessment test and / or IQ scores. The institutionalisation of streaming by ability / intelligence further reinforces the public perception that some are able and some are not, while the over-representation in lower streams of working-class children serves to confirm the prejudice that levels of intelligence are related to socioeconomic background.

However, it should also be noted that a number of "compensatory" educational programmes provided to primary schools in targeted areas of disadvantage in Ireland at present appear to subscribe to the belief that such interventions can make a difference, if systematic and sustained. The philosophy here also suggests that social, economic and environmental factors are often responsible for educational underperformance, and therefore that early focused interventions can "break the cycle". Arguably therefore, Irish educational policy in relation to compensatory provision reveals something of a contradiction of the popular "essentialist" thinking about intelligence referred to earlier. It implies a belief that performance can be raised through such programmes – it does not explicitly state a belief that intelligence levels can be enhanced. Only time and evaluation will shed light on the views of teachers in these programmes – will their views on intelligence and ability be altered by the experience?

New views on intelligence

Many of the challenges to the unitary concept of intelligence have been discussed earlier. It is apparent that from an early stage, there were those who contested this concept. In fact, the literature suggests that both unitary and pluralist views of intelligence existed together from the beginning, but that the "IQ view" became the dominant one. The balance has shifted dramatically in recent decades, as a sustained assault on "the empire of IQ" has led to renewed popular interest in the whole notion of intelligence. New thinking has been stimulated by brain research, by advances in cognitive science, and by dissatisfaction with the deterministic aspects of intelligence testing as dominated by IQ tests. Gardner et al. (1996) have pointed out that research involving mental tests and laboratory tasks has provided many insights into human intelligence and individual differences, but that

> [new theories] argue that psychometric tests and laboratory tasks cannot by themselves explain the variations in intelligence that exist outside the testing situation. Thus to a greater or lesser extent, each of the new theories draws on research and methods from other disciplines – biology, neuropsychology, developmental psychology, anthropology, sociology and education (p.196).

Gardner, Kornhaber and Wake (1996) examine four recent theories of intelligence which move away from an IQ-dominated concept of intelligence, but in different directions. Each theory has its own literature, and each has been critiqued. The following is a very brief outline of the fundamentals of three of the theories (adapted from Gardner et al.) – the fourth, Gardner's *Theory of Multiple Intelligences* (1983; 1993), is dealt with in detail in the following section.

Robert Sternberg's *Triarchic Theory of Human Intelligence* (1985) conceptualises intelligence as having three interrelated dimensions or "subtheories": the *componential* subtheory, which deals with the internal information-processing mechanisms individuals apply to problem solving; the *experiential* subtheory, which considers intelligence in the experience of the individual with a task or situation; the *contextual* subtheory, which sets about exploring the relationship of the external environment to individuals' intelligence.

Mike Anderson's *Theory of Intelligence and Cognitive Development* (1992) is not a pluralist theory – in fact, Anderson aims at supporting the notion of general intelligence. He combines data from the fields of cognitive development and the study of individual differences in an effort to explain various, somewhat contradictory findings in the study of intelligence. Anderson also seeks to encompass

low-level and high-level views of intelligence, the former relating to basic physiological processes, the latter including "higher-order" skills such as judgement and reasoning.

Stephen Ceci's *Bioecological Treatise on Intellectual Development* (1990) "builds on the triarchic theory's effort at exploring internal processing mechanisms, experience and context". Ceci argues that intelligence rests on multiple cognitive processes, and he proposes that "the ability to use one's knowledge bases flexibly and efficiently is much more a marker of intelligence in real life than is an IQ score" (p.244).

In general, the theories above, likewise Gardner's, seek to explain individual difference in intelligence. In doing so, they share a degree of common ground, especially in their attempts to account for both the biological and environmental elements of intelligence. As suggested earlier, this reflects the requirement to take both views of intelligence into account in any newly-developed theory. Gardner et al (1996) also point out that all the theorists referred to here "have gone beyond building theories based primarily on intelligence tests and factor analysis", and have "considered a wide variety of disciplines within psychology" (p.244).

Thus, the search for a new understanding of intelligence continues, drawing on the ever-expanding knowledge of the disciplines in the attempt to build as inclusive and comprehensive an understanding as possible. The section that follows hereunder provides a detailed analysis of Gardner's Theory of Multiple Intelligences, another theory of intelligence that seeks a similar inclusivity and accommodation.

SECTION 2: THE THEORY OF MULTIPLE INTELLIGENCES

The Theory of Multiple Intelligences

In 1983, Howard Gardner, a developmental psychologist at Harvard, published his book *Frames of Mind*, reigniting the worldwide debate on the nature of human intelligence. Gardner says that the book was the result of his attempts to reconceptualise human thought "in a way that was broader and more comprehensive than that which was then accepted in cognitive studies" (Gardner, 1993b: xi). However, the arrival upon the scene of the concept of multiple intelligences was but one of the fruits of years of research by Gardner and others in *Project Zero* at Harvard.

This large-scale research project had been established at the Harvard Graduate School of Education in 1967, its main founder being the philosopher Nelson Goodman. Goodman was particularly interested in the way children represented

their understandings in the arts, and he believed that arts learning should be studied as a serious cognitive activity. At the outset, he suggested that since what was known already about children's understandings within the arts was close to zero, the Project should reflect this in its title – hence *Project Zero*. The research focus has broadened over the years, examining teaching, learning and assessment processes – with particular emphasis on thinking and understanding – in American schools.

Gardner's research interests lay in the areas of human cognition and creativity. He claimed that his own research with the victims of brain trauma had convinced him of the existence of a number of separately identifiable intelligences, some of which might be impaired by injury or disease while others remained unaffected. His theory – essentially that human intelligence is *pluralistic* rather than *unitary* – attracted phenomenal interest in many countries, particularly within the education community. Gardner has denied that it was his particular intention to address his theory to professional educators, yet they constituted his most attentive audience: people involved in all levels and in all kinds of schooling saw much that was of interest in the theory, and pursued Gardner for elaboration and clarification. Ironically, psychologists largely ignored the theory.

Features of MI theory

In his original (1983) elaboration of MI theory, Gardner proposed that all humans have at least seven identifiable intelligences – he later (in 1997) added an eighth. The eight intelligences are as follows: (in each instance, examples of occupations – "endstates" – which would embody the relevant intelligence in action, are suggested)

- *Linguistic Intelligence* allows individuals to communicate and make sense of the world through language (poets, journalists, writers, orators);
- *Logical-mathematical Intelligence* enables individuals to use and appreciate abstract relations (scientists, mathematicians, philosophers);
- *Musical Intelligence* allows people to create, communicate, and understand meanings made out of sound (singers, musicians, composers);
- *Spatial Intelligence* makes it possible for people to perceive visual or spatial information, to transform this information, and to recreate visual images from memory (architects, engineers, sculptors);
- *Bodily-kinesthetic Intelligence* allows individuals to use all or part of the body to create products or solve problems (craftspeople, dancers, surgeons, athletes, choreographers);

- *Interpersonal Intelligence* enables individuals to recognise and make distinctions about others' feelings and intentions (parents, teachers, politicians, psychologists, salespeople);
- *Intrapersonal Intelligence* helps individuals to distinguish among their own feelings, to build accurate mental models of themselves, and to draw on these models to make decisions about their lives (difficult to observe in specific occupations, but relevant to most);
- *Naturalist Intelligence* allows people to distinguish among, classify, be sensitive to, and use features of the environment (farmers, gardeners, botanists, florists, geologists, archaeologists).

(Condensed from Veenema, Hetland and Chalfen, 1997)

The eight areas represent as comprehensively as possible the range of intelligent human functioning. Quite clearly, while each is identified as a discrete intelligence, each also interacts with others in complex ways to produce the richness of human behaviour and achievement. Ordinary human functioning requires such interaction. It should be further added that many people will exhibit a highly-developed intelligence, not perhaps in their occupation, but in pastimes, interests, hobbies, in personal projects, or in social and personal relationships.

Gardner has suggested that human intelligences at birth are “raw biological potentials” (1993b), or “a set of uncommitted neurobiological potentials” (Gardner, et al., 1998). Elsewhere he has termed them “human intellectual proclivities” (1993a), or as the “psychological potential to solve problems or to fashion products that are valued in at least one cultural context” (1998: 20). As the child grows and interacts with others and with the environment, these potentials are developed into functioning systems, working together to enable human living and development, and especially problem-solving. Analysis of Gardner's definition reveals that intelligence is considered to be context-specific; it is ‘real’ only to the extent that it is activated towards the achievement of some purpose. Intelligences are developed through interaction with one's environment, whether with people, objects, materials or ideas, and are made manifest in that interaction. This has given rise to Gardner's statement that “we cannot say a person is intelligent unless we can say *in what way* he or she is intelligent”. Put another way, intelligence can be recognised only as “intelligence-in-action” or “in-use”. Context specificity is further shown by the fact that a product or service may have value in one culture and not in another, or may be valued in an earlier era and not in a later one. Thus, each society and each age may redefine what intelligent behaviour is.

The rate at which the intelligences develop, and the extent to which they do so, are determined by a complex interaction of environmental and cultural nurturing factors as well as by the child's genetic endowment. These factors ensure differing intelligence profiles between individuals. Thus, some people may display highly-developed linguistic, logical and interpersonal intelligences, for instance, yet be quite inadequate in their spatial or musical intelligences. Any number of variations may be encountered from one individual to the next. While a few individuals may have all intelligences developed to a high degree, a minority will show little development in any of the areas.

Important implications of MI theory for our understanding of intelligence

The theory of multiple intelligences challenges some of the most fundamental and commonly-held beliefs about the nature of intelligence. Among these are: the belief that intelligence is constituted in a general capability – often termed *'g'* or 'general intelligence'; that this can be measured and quantified reliably and effectively, by the use of instruments such as standardised tests, or tests producing an 'IQ' score; and that intelligence is a fixed quantity. Gardner has not denied that '*g*' exists - but he argues that it is a measure of linguistic or logical intelligence, and while this can predict quite well the success of individuals in school – where most learning is represented through the logical or linguistic codes – it is not so reliable in predicting success outside of school tasks (Gardner, 1993b: 39).

The decontextualised nature of much school testing and assessment is pointed up by Gardner as a weakness of the education system. If intelligences are made manifest only in human actions or in the products of such actions, then much assessment of what people can do and can achieve should be done in the context of real situations, where a problem has to be solved, a product has to be made, or a service has to be provided. Gardner also contests the notion that intelligence, as captured in an IQ score, is fixed and immutable.

Perkins argues in similar vein, opposing the view that intelligence is fixed due to its genetic basis – Perkins acknowledges the major hereditarian component in intelligence, but also claims that intelligence can in fact be 'learned' (Perkins, 1995). Perkins suggests that humans commonly function below the level of their intellectual capacity, and he details how people can learn to think more intelligently, using their mental capacities more efficiently. He proposes that intelligence has three dimensions:

- *neural intelligence* – the contribution of neural efficiency to intelligent behaviour

- *experiential intelligence* – the contribution of a storehouse of personal experience in diverse situations to intelligent behaviour
- *reflective intelligence* – the contribution of knowledge, understanding and attitudes about how to use our minds to intelligent behaviour

(Adapted from Perkins, 1995: 14-15)

Perkins suggests that the latter two dimensions are 'learnable' and make up 'learnable intelligence'.

Implications of MI theory for the way people learn or fail to learn

Lay responses to the messages of MI theory are characterised by enthusiasm and optimism – the common immediate response is to view the multiplicity of intelligences as being 'very interesting'; the later more reflective response is that this offers hope to many who have failed to learn. The emphasis which MI theory places on diversity of learning and assessment approaches strengthens the conviction of many that traditional methods of schooling are not appropriate for many young people, and actually disadvantage them. This conviction is strongest when proponents of MI theory point out the dominance of the linguistic and the logical in our schools, often accompanied by a devaluing, or at least neglected development of the other intelligences.

Many adults today, reflecting upon their own schooling experiences, believe that their intelligences were neglected or repressed, because they did not fit into mainstream learning in classrooms; or they suffered what Armstrong (1994) has termed *paralyzing experiences* (events or negative reactions – often from parents or teachers – that caused people to 'shut down' intelligences). On the other side of the coin, shining like a beacon for many of these people, was a parent, teacher or friend who did recognise their capabilities, and who encouraged them towards developing these, despite the obstacles. These 'mentors' may have provided the *crystallizing experiences* (Feldman, 1980; Gardner and Walters, 1986) which gave people the spark needed to ignite their intelligence strengths. For many people, however, these experiences did not occur until long after their formal schooling had ended.

Gardner himself, who disavowed an educational agenda in his original proposition of the theory, has become deeply committed to the application of the theory in classrooms in the US and further afield. Yet he seeks to disqualify himself from telling teachers how they should use MI theory:

> There is always a gulf between psychological claims about how the mind works and educational practices, and such a gulf is especially apparent in a theory that was developed without specific educational goals in mind. Thus in educational discussions, I have always taken the position that educators are in the best position to determine the uses to which MI can and should be put (Gardner, 1995: 206).

Despite his proclaimed reverence for teachers' judgements in this sphere, Gardner has not been slow to criticise classroom practices which he sees as misuses or misinterpretations of the theory, and at the same time has made explicit the characteristics of a school which he would consider embodies the MI 'spirit'. These characteristics – which are also the ones that attract lay interest, and are also among the ideals espoused by many educationalists for a successful learning environment – are: (i) the cultivation of desired capabilities; (ii) approaching a concept, subject matter or discipline in a variety of ways, and (iii) the personalisation of education.

(i) The cultivation of desired capabilities

Stating that schools should "cultivate those skills and capacities that are valued in the community and in the broader society", Gardner suggests that if, for example, the capacity to take into account the feelings of others is to be valued, then there would be an emphasis on the interpersonal intelligence in schools. If the community believes that children should be able to perform on a musical instrument, then the cultivation of musical intelligence toward that end becomes a value of the school. Many commentators on education suggest that there is often a gulf between what students spend time learning and their later needs as thinking and caring persons, as active participative citizens or as creative and productive workers. In other words, a considerable amount of what is valued in school may well be disregarded in the wider society, while competencies and personal qualities deemed essential to one's quality of life may well be neglected by schools. Drudy and Lynch (1993) for example, have pointed out that "the personal intelligences have been largely ignored by students of cognition", despite the crucial importance that these forms of knowledge play in most if not all societies (p.238). As an antidote to this, a more equal valuing of the range of intelligences increases the congruence of the aims of schooling with the "lifelong learning" needs of students, and enhances the likelihood that schooling will be more relevant to young people.

(ii) Approaching a concept, subject matter or discipline in a variety of ways

Nearly every topic taught in school can be approached in a number of ways, according to Gardner, and building these pluralistic approaches into teaching opens up multiple 'windows' into material:

> My own belief is that any rich, nourishing topic – any concept worth teaching – can be approached in at least five different ways, that, roughly speaking, map onto the multiple intelligences. We might think of the topic as a room with at least five doors or entry points into it. Students vary as to which entry point is most appropriate for them and which routes are most comfortable to follow once they have gained initial access to the room. Awareness of these entry points can help the teacher introduce new materials in ways in which they can be easily grasped by a range of students (Gardner, 1991: 245).

These means of access, which Gardner has termed *entry points,* he outlines as follows:

- a *narrational entry point*, where one presents a story or narrative about the concept in question – the power of the story, myth or tale is harnessed here
- a *logical-quantitative entry point* where one approaches the concept by invoking numerical considerations or deductive reasoning processes – this will appeal to those with an analytical and factual approach to problems
- a *foundational entry point*, where one examines the philosophical and terminological facets of the concept – this suits best those who like to ask the "big questions" about things – the 'why?' and 'why not?' questions
- an *aesthetic entry point*, where the emphasis is on sensory or surface features – this approach will appeal to those with an artistic flair, and those who think in imagery and illustration
- an *experiential entry point*, where access is through a hands-on approach, dealing directly with the materials that embody or convey the concept

(Condensed from Gardner, 1991: 245-6).

In the past few years, researchers have been adding to the above a further entry point which they term a "collaborative", "co-operative" or "interpersonal" entry point (Hetland, 1997). Here, access to material is facilitated through activities which require co-operative efforts among students, a strategy which taps into the preference of some students for work with others rather than individual work. In one of his more recent works – *The Disciplined Mind* – Gardner states that "one can find at least seven powerful entry points to diverse concepts". He categorises these

as narrative; numerical; logical; existential/foundational; aesthetic; "hands-on"; and interpersonal. (Gardner, 1999(a):188-199).

In this approach to teaching, a skilled teacher, according to Gardner, is one who can open a number of different 'windows' on the same concept. The outcome is enhanced access into material for all students – in Gardner's words: "because children do not all learn in the same way, more children will be reached" (Gardner, 1995: 208). Thus the teacher and the student come to realise that understanding can be represented in more than one way – students can display their new understandings in ways that are "more comfortable for them and accessible to others" (ibid., p.208). It is worth noting that entry points such as the *narrational*, the *aesthetic* and the *experiential* tend to be used predominantly by teachers of young children, as they are perceived to be appropriate to the 'non-abstract' thinking characteristic of that age. However, even quite young children ask questions of the foundational sort, and many enjoy factual and comparative knowledge. Conversely, one might ask whether the *story* ever loses its appeal, regardless of the age of the hearer, or whether we ever completely outgrow our need to link our abstract understandings to concrete situations or materials – witness the ubiquity of metaphor, image, simile and analogy in our everyday communication, even on highly-abstract issues. We should conclude, therefore, that each of the entry points is relevant and useful no matter what the age or stage of the learner.

(iii) The personalisation of education

One of the attractions of MI theory is its endorsement of the beliefs and practices of many educators, particularly those who believe that each child needs acknowledgement of his or her individual learning strengths and styles. Gardner says that educators have always noted differences among learners, but "they have been strongly inclined to believe that all students can learn in similar ways" (Gardner, 1991: 244). For those students whose learning styles and backgrounds are compatible with the teaching styles of their teachers, and who can learn successfully from textbooks and traditional lecturing, this may be quite adequate, but the casualties are those "whose learning styles or profiles of intelligence are not in tune with prevailing instructional practices" (ibid., p.244). Gardner declares his support for those whose teaching as far as possible caters for individual learning needs:

> I have always believed that the heart of the MI perspective – in theory and in practice – inheres in taking human differences seriously. At the theoretical level, one acknowledges that all individuals cannot be profitably arrayed on a single intellectual

> dimension. At the practical level, one acknowledges that any uniform educational approach is likely to serve only a minority of children (Gardner, 1995: 208).

Responding to what he has decried as misinterpretations and abuses of the theory, Gardner has stated that "MI theory is best thought of as a tool rather than as an educational goal" (1998: 21). Perhaps his best summary of his ideals for a school are summed up in his answer to the question: 'what kind of school would you like your own children to attend?'. His answer:

> I would be happy to send my children to a school with the following characteristics: differences among youngsters are taken seriously, knowledge about differences is shared with children and parents, children gradually assume responsibility for their own learning, and materials that are worth knowing are presented in ways that afford each child the maximum opportunity to master those materials and to show others and themselves what they have learned and understood (ibid., p.208)

Symbol systems

One of the criteria Gardner has employed in evaluating the claims of candidate intelligences to be included in the "recognised list" is its susceptibility to encoding in a symbol system. This 'capability' of an intelligence may be the criterion of most significance and relevance to the educational context, because it makes the most meaningful link between the theory of multiple intelligences and the manner in which people learn and express their learning and understanding.

Gardner and others have argued that "perhaps *the* distinctive property of human beings has been the species' capacity to employ various kinds of symbol systems" (Gardner, Torff and Hatch, 1996: 33). These authors suggest that each child constructs *internal* symbol systems – *mental representations* – in an intuitive way, consequent upon initial encounters with the physical world and with the surrounding culture. However, that culture has already, over centuries perhaps, built up *external* symbol systems – ways in which the culture ensures its essential values will be preserved and transmitted to the next generation. The main function of school, these writers suggest, is to bring into some kind of synthesis these internal and external forms of symbolic representation. Their key point is that symbol systems serve as the "middle ground" between the *intelligences* (humans' genetic endowment) and the *memes* of the culture (the knowledge, understandings and cultural norms valued by a society). They express it thus:

> Any thorough understanding of the mind of the child and the process of education must span the gamut from human biological and evolutionary heritage, on the one hand, to the operation of human cultural institutions and practices, on the other. Yet the distance between genes and gods is simply too great to be casually bridged (Gardner, et al., 1996: 35)

The argument here is for the important role that the (multiple) intelligences can play in both internally and externally representing the meanings of what one has learned. Unfortunately, schools require that understanding be represented predominantly through verbal and logical means, setting at a disadvantage those whose intelligence strengths do not coincide with these. Therefore, a challenge for those who administer and facilitate schooling is to encourage learning by means of the diverse symbol systems through which the intelligences are expressed.

Gardner has pointed out that the more representations one can make of a concept, the more likely it is that deep understandings will result. This is one of the principles behind MI theory and its practice – if meanings can be constructed using the symbol systems of more than one or two intelligences, learning is likely to be deeper and more enduring. Quite early on in the child's life, parents and teachers can observe which of the intelligences are strongly exhibited by the child – this can be valuable in optimising the child's learning capacity. The range of intelligences in a child opens up the possibility of multiple entry points, 'gateways' or 'pathways' into learning. When planning learning experiences in the classroom, the teacher can activate (*teach through*) a number of intelligences along with the linguistic and logical-mathematical. Those students who learn better through the non-linguistic intelligences will have their learning opportunities greatly enhanced, while students who learn well through the traditional entry points will have opportunities to deepen and enrich their understandings. However, the teacher must plan for learning outcomes first, then seek ways in which the intelligences could be utilised towards those ends. To plan around the intelligences, fitting material to them, is not an authentic interpretation of MI theory.

For teachers, this presents quite a challenge, as the structuring of a genuine multiple intelligences learning environment requires considerable planning time and not a little creativity. Hanafin (1997b) highlights the potential of MI in schools:

> MI approaches call for a fundamental appraisal / reappraisal of how we view intelligence and potential in relation to all our students. Such reappraisal is within the scope of every teacher and every school.

> Good schools and effective teachers carry out many re-evaluations of their own effectiveness every day. Gardner's theory applied to school contexts provides a flexible and challenging lens through which to conceptualise such ongoing professional acts (p.36).

Research into MI classroom work in the United States (Kornhaber and Krechevsky, 1995; Kornhaber, 1998) in Australia (Vialle, 1997), and recently in Ireland (Hanafin, 1997a), suggests that where MI-based planning is undertaken, the rewards are substantial and tangible. It is reported that students participate more in classroom work, and show higher levels of interest; disciplinary referrals and truancy are reduced, and their assessed learning – including assessment by standardised tests – is judged to be more effective (See summary in Kornhaber, 1998; also Latham, 1997).

Criticisms of MI Theory

Gardner's theory has been criticised on several counts. Some psychologists argue that the labelling of some human abilities as intelligences creates confusion in people's minds about the real meaning of intelligence. Others say that Gardner's criteria for qualifying a candidate intelligence are not watertight, and that some of the intelligences are allowed into the MI list even though they do not meet fully all the qualifying criteria. Gardner, it has been claimed, does not clearly state the manner in which his theory should be applied to educational environments. He leaves it up to teachers' own professional judgement to utilise MI in each particular classroom or learning situation. Some view this as an avoidance of specific guidance.

Gardner has also been accused of devising MI theory for "social" purposes, rather than on scientific grounds. Some see in MI theory a devaluing of traditional teaching methodologies and the disciplines, and a promotion of progressivism in a new guise; others see in the theory a valuable tool towards attaining higher standards in schools, across all disciplines. Gardner's defence of his theory and its application may be read in detail in *Frames of Mind* (Gardner, 1993), and in *Intelligence: Multiple Perspectives* (Gardner, Kornhaber and Wake, 1996).

SECTION 3: UNDERSTANDING AS AN EDUCATIONAL GOAL

The founding of *Project Zero* at Harvard in 1967 was but one further landmark along the way to an attempted revitalisation and reform of American education. The advocacy of reform was accompanied by, and partly inspired by a widespread intellectual analysis of the learning needs of American society. This debate, which in some respects had been going on for decades, caught the public imagination in the

1950s with the launch in earnest of the "space race", and a dawning realisation that the US was losing its pre-eminent position in technological, scientific and economic advance.

Recent interest in understanding as an educational aim

A widely-expressed concern in the US from the 1950s onwards was that the quality of much American education was inadequate. The decline of US competitiveness in global trade and technology led to a re-evaluation of the quality of teaching and learning in the schools, and a conclusion by government and other interests that curriculum reform was a panacea for America's economic ills. Others believed that schooling also held the key to social cohesion, as awareness of the glaring inequalities in educational provision grew and was compounded by rising levels of concern over racial tensions, civil rights, the environment and the war in Vietnam. One of the key issues debated about education was the extent to which it produced – or failed to produce – creative thinkers, people who could imagine and construct new solutions to old and new problems. It was believed that schools trained students to 'reproduce' rather than to 'produce' knowledge, and that the teaching of understanding was a neglected aim.

Perrone (1998) points to the "dominant intellectual influence" of Jerome Bruner in the "unprecedented period of curriculum reform" in the 1950s and 1960s.

> Bruner advocated an approach to thoughtful subject matter learning that made solid connections to the lives of learners – to their need for understanding content, not merely their ability to repeat textbook formulations (p.21).

Perrone recounts how Bruner's social studies curriculum *Man: A Course of Study* (1965) "celebrated complexity and challenged students and teachers alike to think, to go beyond what was presented" (Perrone, 1998: 22). Bruner argued that "any subject could be taught to any child at any age in some form that is honest" (Bruner, 1977: ix). Advocating a 'spiral curriculum', Bruner proposed that

> one approached knowledge in the spirit of making it accessible to the problem-solving learner by modes of thinking that he already possessed or that he could, so to speak, assemble by combining natural ways of thinking that he had not previously combined (ibid., p.ix)

In fact, Bruner believed it essential that the learner should gradually master several symbolic systems and find different ways of representing abstract ideas. Perrone points out that other experimental curricula of the 1960s as well as Bruner's

> . . were committed to the notion that youngsters can not only learn about various academic disciplines, but can engage them in ways significantly parallel to the work of professional practitioners, leading in the process to understanding (Perrone, 1998: 22).

The theoretical underpinnings of Gardner's work on multiple intelligences and of the Teaching for Understanding Project can be identified in the work of figures such as John Dewey and Jerome Bruner – the latter influenced in turn by the work of Piaget, Chomsky and Lèvi Strauss. It is from these historical and intellectual wells that the research of *Project Zero* has sprung.

Roots of MI and Teaching for Understanding

It is clear therefore that Gardner's MI theory, and current international interest in understanding as an educational goal have not dropped from the blue, but have clear social, cultural, economic, philosophical, intellectual and educational roots. The line of descent of these ideas can be clearly traced from the end of the last century. However, fundamental educational ideas such as the concept of teaching for understanding have a much older provenance. Perrone (1998) traces the history of understanding as a goal of education, and points out that its status has waxed and waned over the centuries. "Philosophically as well as in practice", he claims, "teaching for understanding is almost as old as human history itself" (p.14).

Although suggesting that the contemporary interest in understanding is the result of recent and current educational, social and economic factors, Perrone stresses that this is not a new discovery. In fact, just a century ago, the progressivist movement began to blossom, with many common characteristics and concerns to those expressed today, including the goal that students should have deeper understandings of what they studied in schools. Perrone convincingly shows how the essential features of the Teaching for Understanding 'movement' of the late 20th century mirror those advocated by educational reformers of the late 19th. He traces the roots of thinking about understanding, showing the influence on American education of the great educationalists Froebel, Pestalozzi, Mann, Herbart and Dewey. The work of Bruner in more recent decades is identified as being influential in the present-day renaissance of interest in understanding. Gardner also acknowledges the influence of progressivist ideology on his own thinking about intelligence and understanding (Gardner, Torff and Hatch, 1996).

The challenging and promising developments of the 1960s were to be overtaken by the 'back to basics' movement of the 1970s and 1980s. However, Perrone suggests that there is now in the late 1990s a resurgence of interest in teaching for understanding:

> The basic skills-oriented education that has tended to dominate the last two decades seems too little. Once more school critics are calling for students to go beyond facts, to become problem solvers and creative thinkers, to see multiple possibilities in what they are studying, and to learn how to act on their knowledge (ibid., p.24).

Gardner has been one of the voices highly critical of a basic skills curriculum, and for reasons similar to those alluded to by Perrone above. He points up the narrowness of the basic skills approach:

> To declare oneself against the institution of the three Rs in the schools is like being against motherhood or the flag. Beyond question, students ought to be literate and ought to revel in their literacy. Yet the essential emptiness of that goal is dramatised by the fact that young children in the United States are becoming literate in a *literal* sense; that is, they are mastering the rules of reading and writing, even as they are learning their addition and multiplication tables. What is missing are not the decoding skills, but two other facets: the capacity to read for understanding and the desire to read at all. Much the same story can be told for the remaining literacies . . . (Gardner, 1991: 186).

Gardner adds that the important thing missing from students learning are "contexts in which the deployment of these skills makes sense". He suggests that what frequently happens in schools at all levels constitutes acceptance of the mediocre and the superficial. As long as students achieve minimum standards, there is an 'understanding' – Gardner calls it "the correct-answer compromise" – that they will not be pushed towards greater effort (1991: 151). In addition, teachers are constantly under pressure to "cover" courses, the usual outcome being that depth of understanding is sacrificed. "Coverage", it is claimed, "is the greatest enemy of understanding" (Gardner, in Steinberger, 1994: 29), and the all-out pursuit of the basic skills can undermine attempts to foreground student understanding.

In *The Unschooled Mind* (1991) Gardner critiques the quality of understanding found among students at all levels of the education system, and finds it cause for serious

concern. In the case of science and science-related areas, Gardner claims, students bring *misconceptions* to their studies; in the case of mathematics, their understandings are often restricted by *rigidly applied algorithms*; while in the case of the humanities and the arts, the problems are generally of *stereotypical thinking and simplifications* (Gardner, 1991: 151-181).

Gardner's "new progressivism"

Gardner has regularly felt obliged to defend himself against suggestions that his educational ideas were in some way antipathetic to traditional academic schooling and the disciplinary values represented therein. While he openly declares his "progressivist" credentials, and his writings come from the school of developmental psychology, Gardner has been concerned to find a middle course between the assumed opposites of traditional and progressive ideologies and practices of schooling. He describes those who people the two educational territories thus:

> There have always been individuals who have stressed traditional means and goals: a fixed curriculum, specific concepts and facts to be learned, canonical books to be read, exercises to be done. And just as predictably, there have been individuals who have challenged this orthodoxy. Called transformationalists, reformers, or more recently, progressives, these latter individuals have focused on the diverse forms of knowledge, the several uses to which knowledge can be put, and the important role of the individual and the context in determining what to teach, how to construe it, what questions to raise, and how to make use of what has been learned (Gardner, 1998b: 346)

In proposing "a new progressivism", Gardner believes that schooling can benefit from the strengths of the two traditions – the distillation of human wisdom and culture contained within the disciplines on the one hand, and on the other, the understandings we now have of how people learn and can construct knowledge and understandings. While the goals sought are traditional, the methods are modern – he summarises his advice: "use progressive means to attain traditional ends".

> As we see it, our own educational goals are ambitious but in no sense unorthodox or revolutionary. We seek students who are literate, who have mastered the disciplines, who can – and want to – use their minds well . . Yet we eschew any *a priori* commitment to traditional ways of teaching or assessment, in part because they have already

> been shown inadequate for many students in many circumstances (ibid., p. 347).

In a recent book *The Disciplined Mind: What All Students Should Understand,* Gardner sets out what he regards as the features that he believes ought to characterise good education – "or more properly, good educations" – everywhere in the world. He states that he is "Weary of debates that array one educational philosophy against another – traditionalists against progresssives – proponents of phonics versus advocates of "whole language". (Gardner, 1999(a):15). He emphasises his commitment to standards and quality in education:

> My psychological work on multiple intelligences has had an unanticipated consequence, This is the assumption on the part of some critics that I am unsympathetic to a rigorous education, and that I eschew high standards…. A belief in multiple intelligences, however, is in no sense a statement about standards, rigor, or expectations, and it is certainly not a rejection of these desiderata. On the contrary: I am a demon for high standards and demanding expectations…. It pains me to see my work aligned with that of individuals who are apologists for low standards, low expectations, "anything goes". (Ibid: 25).

SECTION IV: THE KEY ROLE OF ASSESSMENT

Gardner and others have been especially critical of systems of assessment which contribute to the narrowing of curriculum, and which reward short-term recall at the expense of deeper understandings.

> In schools – including "good" schools – all over the world, we have come to accept certain performances as signals of knowledge or understanding. If you answer questions on a multiple-choice test in a certain way, or carry out a problem set in a specified manner, you will be credited with understanding. No one ever asks the further question "But do you *really* understand?", because that would violate an unwritten agreement: A certain kind of performance shall be accepted as adequate for this instructional context (Gardner, 1991: 6).

Dissatisfaction with unidimensional modes of assessment has spawned a wide range of "alternative assessment" approaches internationally in recent decades. Variously termed "authentic assessment", "performance assessment", these approaches have appealed to educators for diverse reasons. Some believe that pen and paper

assessments fail to capture much of students' learning, and that the solution is to allow students to show what they know, what they understand and what they have learned by structuring assessments in more practical and context-related ways. Others see new assessment approaches as a means of redressing educational inequalities.

From wherever their promoters come, there is a large measure of consensus that the search for more effective means of assessment should be pursued; some would foreground accountability as a requirement, others equity. However, Torrance (1995) argues that caution is needed in attempting to use assessment as a means of educational reform.

> While this coincidence of political and educational concern with reforming assessment has certainly created opportunities for change, there is considerable variation in the desired nature and likely consequences of change, and any review of the use of assessment in this context must identify the variety of ways in which such use is being conceptualised and advocated (Torrance, 1995: 145).

In Ireland, too, there has been a growing interest in new thinking about assessment. This interest has been stimulated on the one hand by concerns about the effects on teaching and learning of "traditional" assessment approaches, as exemplified by the state examinations, and on the other by the emergence of innovative forms of assessment particularly associated with "alternative" educational programmes (Hyland, 1998).

Increasing diversity in assessment

Despite the apparently monolithic character of the traditional academic examination system, in Ireland, as elsewhere, it is being increasingly challenged by the assessment approaches of a range of alternative educational programmes (details of these Irish programmes in Crooks and McKernan, 1984; Hyland, 1998a, 1998b; McNamara, Williams and Herron, 1990). These are programmes whose assessment approaches are more diverse and flexible than traditional modes of assessment (Hyland, 1998b). Such programmes have initially been devised to cater for the substantial minority of students who has not benefited in the past from the traditional academic curriculum offerings. Along with these programmes has evolved a much broader set of assessment techniques, essentially aiming to measure learning in more diverse, and in more 'authentic' ways. Such techniques include portfolios (including student reflection and self-assessment), curriculum profiles, teacher-student conferences, logbooks, journals, work experience reports, action projects and design tasks.

A significant strand in contemporary thought about assessment is the idea that assessment should be integrated into the learning experience as far as possible, with the intention that, through its formative function, it will improve the quality of student learning (Black and Wiliam, 1998; James and Gipps, 1998). Additionally, there is the belief that schools need to assess the widest possible range of student achievement, not just measure academic performance (Veenema, Hetland and Chalfen, 1997). This would entail the devising of what are termed 'intelligence-fair' assessments. By this is meant giving students the opportunity to demonstrate their understandings in different forms of representation, for example in graphic, oral, artefactual, musical or dramatic form, if these are the ways in which they are best able to communicate their learning. Proponents of this view also point to issues of educational and social equity which are relevant to the assessment debate (Lynch, 1992).

The potential of portfolio assessment

The portfolio has been described as a means of assembling and exhibiting student work. Veenema et al. (1997) define student work as "anything students make in school" (p.121). The literature on the portfolio points to its dual value as a means of improving student learning as well as being an assessment tool. A starting point is the valuing of student work that might otherwise be disposed of:

> In too many schools, student work is disposable. Teachers give assignments. Students hand in their work. It is graded, returned, glanced at, and all too often forgotten, lost or thrown in a box never to be looked at again. In portfolio classrooms the things children make are saved and revisited throughout the year. Students are asked to think and write or talk about their own assessments of their work. Of course, teachers express their opinions, too. But the children's perspectives are critical, if, ultimately, they are to become their own most rigorous and sophisticated critics (Seidel, Walters et al., 1997: 11-12).

The student's reflection on his or her own work is considered crucial to the success of the portfolio as a learning aid.

> In reviewing the portfolio, students record their observations and recommendations for future efforts. These thoughts are part of the portfolio and become an important organising and reviewing element. Reflection also underscores the student's own role in creating the

> portfolio, just as it reflects the student's role in creating the work (ibid., p.35).

For students, the portfolio reflection allows learners to examine their learning process, see what worked for them, take responsibility for their own learning, celebrate risk-taking and inquiry, and set goals for future work (Porter and Cleland, 1995).

Portfolio practices are seen to have the potential to transform a school

> The move to portfolio assessment is a move to build a school community around the thoughtful examination and celebration of student work. . . . [These student works] can become the center of many conversations between teachers and students, students and parents, teachers and parents, teachers and their colleagues and administrators. These works can illustrate what individual children have done as well as what the school looks for in the work of all students (Seidel, Walters et al., 1997: 14)

Armstrong (1994) decries the tendency of some teachers to assign grades or scores to students' work in the portfolio, suggesting that it is "reductionism", looking like "standardised testing in its worst moments" (p.131). However, the reality is that the portfolio is used for many different instructional and assessment purposes, some of which do require some kind of grading of the student's work. Danielson and Arbrutyn (1997) suggest that

> [t]he principal differences among the approaches to portfolios concern their use in assessment. If portfolios are to be used for the purposes of assessment (particularly for high-stakes assessment), they must be designed somewhat differently than if their purposes are purely instructional. Evaluation standards and other factors must be clearly defined and rigorously applied (p. vii)

In a system that has traditionally relied on summative assessment (such as Ireland's), what the portfolio can do is shift the balance away from the terminal examination

> From the teachers' perspective, there is a shift in attitude towards the role of evaluation in learning from the assessment of outcomes through comparative rankings of achievement by grades and test scores to the enhancement of student performance through reflection and feedback (Fitzmaurice, 1998: 70).

Hargreaves, Earl and Ryan (1996) point out that portfolios are not in themselves a form of assessment – "They simply supply a record, a wider range of evidence, as a basis for educational assessment" (p.133). They also conclude:

> The key value of portfolios . . . may well reside less in the products themselves than in the formative processes of assessment which organise the ways in which they are compiled (p.134).

While a good deal of time and energy may be expended on working out the details of how a portfolio will be assembled or assessed, the challenge it poses for traditional assessment approaches is its "power-sharing" dimension, i.e. the involvement of students in assessment of their own work. In the use of portfolios in the Transition Year Programme in Ireland, Humphreys (1998) reports that "a piece of work becomes the subject of 'conversation' between student and teacher before grades are awarded" (p.58). Portfolios of coursework for assessment purposes are also employed on the Leaving Certificate Vocational Programme (LCVP) in Ireland, with in-built external moderation (Fitzmaurice, 1998).

The stone that the builders rejected . . .

It can be argued that through innovation, the 'non-mainstream' programmes in this country are leading the way in the quest for a more holistic, and more 'authentic' assessment of student learning, with the possibility that the successful features of alternative programmes will ultimately permeate the academic sphere. At time of writing, recognition of the link modules of the Leaving Certificate Vocational Programme for university and other third-level entry has been confirmed, although the value of the modules in terms of 'points' is less than that of subjects assessed in a more 'traditional' way. Nevertheless, this recognition suggests that the thinking about forms of assessment and certification that has been going on within alternative programmes is finally influencing traditional academic practice. It is also of note that the recently published Report of the Points Commission (1999) recommends that more generous recognition be given to these link modules. That report also suggests that some of the more innovative forms of assessment introduced in the Leaving Certificate Applied and the Leaving Certificate Vocational Programme might be extended to some subjects of the (established) Leaving Certificate. The recent introduction of Civic, Social and Political Education to the Junior Cycle in Irish schools has been a further opportunity for the development of more diverse modes of assessment, with a significant component of school-based assessment included. Moreover, the decision of the Minister for Education and Science to add Religious Education and Physical Education to the list of examinable

subjects in the Leaving Certificate has raised questions about appropriate forms of assessment for these subjects.

Assessment options not taken up

It has been pointed out (Hanafin, 1997; Junior Cycle Review, 1999) that there already exists within the assessment options available to schools for the Junior Certificate examination a reasonably wide range of alternatives. The operational plan for the new examination was set out in 1990 by the NCCA, and only in Mathematics, in Classical Studies, and in Greek, Latin and Hebrew would written examination alone be the assessment mode after 1996. All other subjects had oral, aural, or assignment components in their assessment. Much of this work would be carried out by teachers themselves within their schools, with a consequent reduction in the element of external evaluation. One of the reasons for urging a move towards these arrangements was the need to assess skills and competencies which cannot be measured in paper-and-pencil tests. Unfortunately the assessment of the range of subjects in the Junior Certificate Examination remains predominantly a written assessment.

The Junior Cycle Review (1999) points out that while internationally the movement in assessment for lower-secondary certification has been towards more school-based, teacher-managed assessments, in Ireland, teachers have been resistant to changes of this kind, citing fears about accusations of bias and possible pressure from parents. This is despite the fact that the Junior Certificate examination is essentially a "low-stakes" assessment, since the vast majority of students transfer into further courses of study to achieve final certification. The Junior Cycle Review states that "it is teachers themselves who must be convinced of the value of a change in their role in assessment for verification purposes" (Chapter 3, p.16). This thorny issue will have to be resolved, sooner rather than later, if the original spirit of the Junior Certificate is to be embodied in practice.

Alienation and the 'dropout' phenomenon

Internationally, there has been serious concern about the significant numbers of young people who leave the formal education system each year without certification or minimum qualifications. The 'dropout phenomenon' which afflicts many countries is also a matter for concern in Ireland where each year, between two and three thousand young people leave full-time schooling without sitting for the Junior Certificate Examination – in other words, without any formal qualifications, while as many as six hundred spend little or no time in a second-level school (Williams and Collins, 1997). What must also be taken into account is the high proportion of young

people who fail to gain a creditable number of pass grades in their Certificate examinations – in 1996, for instance, 8.5% of Leaving Certificate candidates obtained less than 5 Ordinary Level Ds (Department of Education, 1996; McCormack and Archer, 1998)

Reform of curriculum and assessment have been widely prescribed as the panacea for this educational, social and economic problem. A commonly-expressed belief is that school programmes of study must engage young people more effectively. Proponents of teaching for understanding, for instance, stress that material should be "accessible and interesting to students" (Wiske, 1998: 4). Hargreaves, *et al.* (1996) studied dropout rates in Canadian schools, and suggest that it is curriculum more than any other factor which leads to adolescents' disenchantment. Speculating that schools often fail to retain students because "they never really engaged them in the first place", they suggest that secondary schools' curricula often do not "engage students in the intrinsic commitment to learning" (ibid., p.80).

It is widely argued too that, given the tendency for students and teachers to work towards tests, it is through reform of assessment practice that curricular reform can be best achieved (NCCA, 1999; Kellaghan, Madaus and Raczek, 1996; Gipps and Murphy, 1994; Madaus and Kellaghan, 1992). So close is the assessment / curriculum relationship that in Ireland the National Council for Curriculum and Assessment (NCCA) would advise the Minister for Education that

> . . a change in the examination system, even to a modest degree, would bring substantial improvements to the teaching and learning process and to the quality of the educational outcomes in schools (Ireland, 1995: 59)

The particular educational context in Ireland differs in many ways from those of other countries, but also shares many common features with them. Consequently, Ireland shares many concerns about its education system with other countries. The perceived shortcomings of the Irish system include evidence that a significant minority of young people do not experience success in the system; that teaching, learning and assessment approaches need to be broadened to take account of the differences between learners; and that the schooling experience overall is unduly influenced by terminal examinations.

SECTION V: ORIGINS OF TEACHING FOR UNDERSTANDING IN PROJECT ZERO

Pursuing understanding as an educational goal

Reference has been made earlier to the major research project at Harvard Graduate School of Education – known as 'Project Zero'. The Project's research focus has broadened over the years, examining teaching, learning and assessment processes. Its strands have included: Teaching for Understanding, Multiple Intelligences, the Arts, Portfolio Assessment, and A Culture of Thinking. Today, *Project Zero* states that it is

> . . building on this research to help create communities of reflective independent learners; to enhance deep understanding within disciplines; and to promote critical and creative thinking (Veenema, Hetland and Chalfen, 1997: 7)

Drawing on the findings of *Project Zero* and other research, many educationalists, challenging the 'back to basics' movement, have continued to stress the importance of *understanding* as a central goal in education, claiming that the pursuit of deep understanding is a neglected objective in most arenas of learning (Gardner, 1991; Veenema, Hetland, and Chalfen, 1997; Perkins and Blythe, 1994).

The multiple intelligences as representations of understanding

The manner in which students represent their understandings is central to MI theory, as is the means of assessment of those understandings. Therefore three of the strands of Project Zero – *Multiple Intelligences*, *Teaching for Understanding* and *Ongoing Assessment* – are closely linked in many ways. MI theory therefore is a tool to help students achieve greater understanding – Gardner cautions that MI should not be seen as an end in itself. The intelligences become 'servants' of the teacher and learner, the *means* through which access can be gained into topics and concepts, and the *symbol systems* which enable more diverse representations of understanding.

The Teaching for Understanding (TfU) Framework

Researchers on the Teaching for Understanding Project have developed a particular view of understanding, terming it a 'performance view'. This is described in the following extract:

> At the heart of teaching for understanding lies a very basic question: What is understanding? Good answers are not at all obvious. Understanding is a subtle matter: it goes beyond knowing. The Teaching for Understanding Project formulated a view of understanding called the 'performance perspective'. It says, in brief, that understanding is matter of being able to do a variety of thought-demanding things with a topic, like explaining, finding evidence and examples, generalising, applying,

> analogising, and representing the topic in new ways. Understanding, then, is being able to use knowledge in new ways (Wiske, 1998, cited in Veenema et al., 1997).

This performance view is central to the construction of the *Teaching for Understanding* (TfU) framework.

The TfU framework which has evolved as one of the *Project Zero* strands provides an important means by which practitioners can restructure their classrooms in terms of teaching and assessment (Veenema et al., 1997; Blythe, 1997; Wiske, 1998). Claiming that in the US educational context, the general policies and broad guidelines are not specific enough to help teachers design curriculum, plan educational activities, and assess student work, the framework suggests that teachers – to make their planning more specific – need to ask four central questions:

- What shall we teach?
- What is worth understanding?
- How shall we teach for understanding?
- How can students and teachers know what students understand and how students can develop deeper understanding?

In essence the TfU framework is constructed around the answers to these four questions. Since the elaboration of the framework is extensive, it would not be realistic to reproduce it here. Instead, there follows a summary of the framework's answers to the four questions.

(i) *What shall we teach?*
In deciding what to teach, the teacher is recommended to select *Generative Topics* – these are chosen because they are "important, fascinating to students and teachers, accessible through a variety of resources and entry points, and informative in considering other topics"(Veenema et al., 1997: 21). The framework suggests that teachers should actually organise curriculum around these generative topics, but that the topics must be central to the subject matter.

(ii) *What is worth understanding?*
Given the inevitably broad scope of the generative topic, it will be essential to identify what it is from within the topic that students should understand – these are termed *Understanding Goals*, and they are stated clearly to students in advance, so they may serve as a reference guide to keep the learning on course. The Understanding Goals "publicly state what teachers want students to understand" (Veenema et al., p.23). The

goals will focus on “fundamental ideas and questions in the discipline” (Wiske, 1998: 4).

(iii) *How shall we teach for understanding?*
Wiske suggests that teachers foster students’ understanding of these goals “by engaging learners in *performances of understanding* that require them to extend, synthesise, and apply what they know” (ibid., p.4). These ‘performances’ are a unique feature of the TfU framework, and they allow students to “express themselves through multiple intelligences and forms of expression; they both develop and demonstrate understanding” (ibid.). Perkins (1998) also defines understanding as *a performance*, a capacity to think and act flexibly with what one knows, and he distinguishes this conception from the more common view of understanding as a mental representation (pp.39-57). This fostering of understanding inevitably requires action and activity, but the key is to build thinking and reflection into the activity, so that links are made between the *action* and the *understanding* – “you need to do things and think about them” (Veenema et al., p.24). Furthermore this is an ongoing process, where understandings are advanced, extended and refined by further activities and reflection. Thus students will speculate, predict, generalise, analogise, compare, contrast, classify, connect and make inferences –this process has been termed as “giving minds-on purposes to hands-on activities” (Veenema, et al., 1997: 37).

(iv) *How can students and teachers know what students understand and how students can develop deeper understanding?*

The framework's answer here is to engage in *ongoing assessment* of students' performances. Wiske (1998) argues that such assessments

> are most educationally powerful when they occur frequently, are based on public criteria directly related to understanding goals, are conducted by students as well as teachers, and generate constructive recommendations for improving performances (p.4)

Veenema et al. (1997) suggest that there are two main forms that ongoing assessment can take – one is regular *reflection*, when the student steps back from his or her work and asks what it is that is now better understood. This reflection can be done alone, or with the assistance of peers, teachers or experts. Its greatest value is in challenging 'fragile knowledge', testing the quality of the understanding gained.

The second main form of ongoing assessment is the process of *developing and applying criteria* – these are the statements one can make about what one has found and comparing of those results to other work – students need to know what high-quality

work looks like, and need to know the criteria by which one's own work will be evaluated. This process is further enhanced if the students themselves are involved in developing the criteria.

The foregoing is an abridged summary of the Teaching for Understanding framework. There are deeper and more complex dimensions to the framework which can be explored in Blythe, 1997; Perkins and Blythe, 1994; Veenema et al., 1997; Wiske, 1998.

Students' understanding as an objective in Irish curriculum guidelines

Understanding has featured as a goal in Irish curriculum statements and syllabus guidelines for many years, and is not a new discovery. The authors of the Primary Curriculum handbooks of 1971, for example, quote approvingly from the 1966 NIEC Report (No. 16). The following is an extract:

> The educational system can develop a receptiveness to new ideas, and a capacity to organise, assess and apply them in all fields of human endeavour. It can develop the capacity to think clearly, creatively and critically, rather than the mere facility for remembering mechanically (National Industrial Economic Council, 1966, p.4, cited in *Curaclam na Bunscoile*, 1971, Handbook 1: 14)

Syllabus suggestions emphasised the importance of conceptual understanding in the subject areas, and stressed that children should be able to apply their knowledge to solve new problems. In Mathematics for example, conceptual understanding was placed before computational practice (Handbook 1: 128). In Social and Environmental Studies, the Handbook stated that "the emphasis should be on learning rather than on teaching", and that among its aims would be an enabling of the child "to understand the various aspects of his experience and to cultivate in him an enquiring attitude of mind" (Handbook 2: 12).

A renewed and even greater emphasis is laid on the importance of understanding – and its real-life application – in the 1999 Revised Primary Curriculum statements. The following are among the specific aims of the curriculum:

(c) To enable children to come to an understanding of the world through the acquisition of knowledge, concepts, skills and attitudes and the ability to think critically
(d) To enable children to apply what they learn to new contexts in order to respond creatively to the variety of challenges they encounter in life
(e) To enable children to develop a respect for cultural difference, an appreciation of civic responsibility, and an understanding of the social dimension of life, past and present

(f) To enable children to develop skills and understanding in order to study their world and its inhabitants and appreciate the interrelationships between them
(g) To enable children to develop personally and socially and to relate to others with understanding and respect (p. 34).

This emphasis on understanding is also evident in specific areas of the curriculum. For example, the curriculum for Social, Environmental and Scientific Education "seeks to enable the child to come to an understanding of the physical world, the relationship of humans with their environment, and the historical process through which that relationship has grown. In developing this understanding, the curriculum helps the child to acquire open, critical and responsible attitudes and to live as an informed and caring member of the local and wider communities". A similar emphasis is evident in the Mathematics curriculum where the aim is to enables the child "to develop an understanding of particular and important dimensions of the physical world and of social interactions". (p. 47). The curriculum for Social Personal and Health Education provides specific opportunities "to enable the child to understand himself or herself, to develop healthy relationships, and to establish and maintain healthy patterns of behaviour" (p. 57).

Prominent among the Curriculum's learning principles is the concept of the child learning to develop the skills and thinking of professionals in the disciplines – as historian, as geographer or as scientist – an echo of Bruner's proposals.

The focus on understanding also features in national curriculum documents at second-level. The Junior Certificate programme (1996) aimed to "reinforce and further develop in the young person the knowledge, understanding, skills and competencies acquired at primary level"; and to "extend and deepen the range and quality of the young person's educational experience in terms of knowledge, understanding, skills and competencies".

CHAPTER 2

A Multiple Intelligences Approach to Teaching and Learning: Report on Phase 11(a) of the Project, January – June 1997

Marie Flynn

Introduction

This chapter describes the aims and main elements of Phase II(a) of the Multiple Intelligences, Curriculum and Assessment Project from September 1996 to September 1997. It examines teachers' reported successes and difficulties during this time, and sets a context for the final phase of the project.

Overview of Phase I research

Phase 1 of the Multiple Intelligences Curriculum and Assessment Action Research Project commenced in October 1995. This phase of the Project was completed in September 1996. Phase I sought to examine the application of the theory of Multiple Intelligences to assessment, initially in the case of Civic, Social and Political Education in Irish second-level schools and subsequently to a broader range of subjects at primary and second-level.

Review of Literatures

Phase I of the project involved an extensive review of an ever-burgeoning literature on the theory of Multiple Intelligences and familiarisation with related literatures. Specifically, this phase reviewed and analysed the literature on: Multiple Intelligences; MI and pedagogy; MI and Assessment; CSPE in the context of MI; Curriculum and assessment structures in the Irish education system. It also focused on issues relating to assessment including modes and techniques of assessment in mainstream use at Junior and Leaving Certificate levels and in second-level initiatives such as the Leaving Certificate Vocational Programme, Leaving Certificate Applied, and the Transition Year Programme. Assessment modes and techniques used in various pilot projects over the last 25 years in second-level schooling *e.g.* Spiral, Vocational Preparation and Training were also reviewed. This provided a knowledge base for the development of the Phase 11 of the project.

Key Events

Hanafin (1997a) notes that the most "notable significant learning moments occurred when project team members attended conferences and during the summer school which the team organised and delivered" (p133). These events helped provide the foundations for

Phase II and the action research phase of the Project. In July 1996 a Multiple Intelligences Summer School was organised by the Education Department in University College Cork. This Summer School, attended by over 50 teachers from different levels within the education system, provided an opportunity for teachers to reflect on their existing practice and to consider how they might integrate an MI approach. Later in July 1996, members of the Project Team attended a Summer Institute on MI in Harvard University. This provided an opportunity to meet with Howard Gardner and the Project Zero team at Harvard, thereby initiating strong links with the team at Harvard, links which have continued throughout the Project.

An Open Forum on Multiple Intelligences was held for teachers in October 1996. This session included a presentation on the progress of the MI project to date and on plans for Phase II. The perceived benefits to participating teachers and to their schools were also discussed. At this session, a short questionnaire was distributed which served a data-gathering function, details of teachers' classes and subjects being sought. Its purpose was also to determine the level of interest in the Project among teachers: whether they were interested in participating in the Action Research approach, or whether they wished to be kept informed of the progress of the Project through the mailing List. The questionnaire was completed and returned by some 28 teachers. Of these, 19 were at second level, and 9 at primary level. Thirteen second level and four primary-level teachers expressed interest in participating in the Action Research project.

One of the ways of discussing progress and difficulties encountered in an ongoing way was through weekly meetings of the project team, Education Department staff, and teachers in the Cork area. These weekly seminars provided a regular forum for discussion and debate and for the pursuit of conceptual depth in Phase I and Phase II of the Project.

PHASE I OUTCOMES

- Reports and research papers were completed in the following areas:
  The application of MI in schools in the United States; Review of general literature on MI; Review of literature on MI and pedagogy; Review of literature on MI and assessment; Analysis of curriculum and assessment structures in Irish education; Modes and Techniques of Assessment in use in Second-level Education in Ireland
- Incorporation of MI theory into units in a range of programmes taught in the Education Department, UCC
- Links with personnel involved the three areas of research for Phase II: personnel involved in addressing issues in the transition from primary to second-level; Transition Year Programme personnel; National Co-ordinator and local trainers for CSPE
- Whole-school incareer development with staffs of second-level schools in Cork

- Seminars and workshops with bodies and groups interested in incorporating an MI approach in their teaching programmes *i.e* NALA, Youthreach

PHASE I FINDINGS

The Report on Phase I of the MI Project at UCC (Hanafin 1997a) details a number of general findings from this phase of the project. These relate to the need for systemic adoption of proposed initiatives; the integration of curriculum and assessment; the importance of staff development; general receptiveness of teachers in Ireland to MI theory; the existence of a broad range of assessment modes and techniques in this country; the availability of well-documented research on profiling and portfolio assessment, which would appear to particularly relevant to multiple intelligences.

From the various meetings and seminars held in Phase 1, it was clear that MI approaches seemed to offer something to all pupils and teachers, but especially to those students who were floundering in the overly-academic courses. It also held the promise of a real alternative to the narrowly-focused assessment that most students experienced at the end of their primary school. It was felt that it would be very difficult to implement the MI approach in rigidly-streamed schools, yet in such schools the approach would have much to offer. There was much evidence that teachers were implementing Multiple Intelligences approaches in their classrooms, even at second-level where timetabling factors and the subject-centred curriculum might act as constraints to the implementation of such approaches. This was evinced in the nature of the work at the Summer school in UCC and from training days and seminars with groups such as Youthreach. While much work was already being done, much about the practices were *ad hoc* in nature. Therefore it was hoped that an analysis of practice within an MI framework might enable teachers to formulate plans for "future teaching strategies in a more deliberated way" (Hanafin 1997a, p135). It was clear at the end of Phase 1 of the Multiple Intelligences Curriculum and Assessment Project, that there was a considerable amount of good will among teachers towards the implementation of MI approaches in their classrooms. This good will, together with the affirmation MI approaches bestowed on existing practice, provided a solid foundation for the action research phase of the project.

OBJECTIVES FOR PHASE II

Phase II of the research project set out to examine the application of the theory of Multiple Intelligences to Curriculum and Assessment with particular reference to:

- Civic, Social and Political Education (CSPE) in second-level schools
- The primary/second-level (P/SL) transition stage
- Transition Year in second-level schools

The general objectives set out in research proposal for Phase II were:

- Training courses for the professional development of participants in the Action Research Project.
- The design of pedagogical and assessment materials with a view to distribution on professional development courses.
- The production of resource packs for teachers at various levels. These packs would include exemplar lessons incorporating pedagogical and assessment approaches based on MI theory.
- Information Seminars to disseminate findings and inform members of the public about features of MI.
- The publication of interim reports at the end of each year of the Project.
- The continued review of relevant literature on MI, pedagogy and assessment.

ACTION RESEARCH FOR PHASE II

Pedagogical approaches were piloted in the following areas:

General Approaches within a Multiple Intelligences Framework

The project personnel devised and compiled lists of practical ways in which teachers might employ MI approaches in their classrooms. These consisted mainly of Multiple Intelligences teaching strategies and were compiled and adapted from MI literature and from the work of practicing teachers. Many were culturally specific and teachers were encouraged to critique these methods in light of their own classroom environment and experience. Teachers adapted these approaches for their own classrooms and devised many innovative ways of embracing MI theory themselves.

Pedagogical Approaches Specific to CSPE

There was an identifiable link between the new CSPE course for second-level schools and the theory of MI. CSPE is underpinned by active teaching and learning methodologies. One of the aims of the CSPE syllabus is to develop qualities of empathy with other human beings and sensitivity to similarities and differences between people. This aim correlates with the enhancement of the interpersonal intelligence (Hanafin 1996). Because CSPE was a new subject, it was perceived more likely to override difficulties which might arise in relation to school-based assessment. CSPE also provided a good case study for applying the theory of MI to assessment. Participants in the Higher Diploma in CSPE (1996/1997) employed MI strategies in their classrooms and data from these sources will be analysed in Chapter 5.

Pedagogical Approaches to bridge the primary/second-level gap

Teachers have expressed a great deal of concern regarding the transition of pupils from primary into second level. These concerns revolve around the move from a child-centred curriculum to a subject based one. Other concerns include the domination of the sixth class curriculum with the 3Rs in preparation for the entrance exams to second-level. There also appears to be a communication lacuna between the teachers at both levels. The Project has provided a unique forum for the coming together of teachers at both levels. It granted an opportunity to express their concerns, share their ideas and work together to try to ease this transition using Multiple Intelligences theory as a base on which to do so. This will be explored further in Chapter 4.

Research Design

The nature of an action research cycle – problem/inquiry/action plan/reflection/re-evaluation of problem – guided the research proposal. The teaching, learning and assessment structures in Irish schools were considered to be narrow, focusing mainly on intelligences in the academic realm (Logical-mathematical and Verbal-Linguistic). The research question as stated in the Phase II Research Proposal asked: How might the theory of Multiple Intelligences be applied to teaching/learning and assessment in order to adopt a more holistic approach which would ultimately improve the situation for pupils and teachers? Initial inquiry began in Phase I with reviews of the literature on MI, curriculum and assessment as well as through links with teachers and in-service personnel. These inquiries suggested that teachers are receptive to the theory and that benefits could accrue to both teachers and learners if methodologies were broadened and intelligence-fair instruments were devised in accordance with this. The research proposal emphasised that inquiry would be ongoing throughout the research project. The action plan outlined in the proposal involved "the development, piloting, dissemination and evaluation of methodological and assessment techniques over a three-year period" of which evaluation would be an integral part.

The Action Research Phase of the Project was launched in January 1997 at an all-day colloquy. A number of presentations were made on the following areas: Overview of MI theory; Assessment issues; Teaching for Understanding; Approaches to Lesson Planning; Possible MI strategies and Approaches. The purposes of the colloquy were:

- to familiarise teachers with the Multiple Intelligences project at UCC
- to present a theoretical overview on relevant issues
- to provide templates for lesson planning, evaluation and reflection
- to provide teachers with a wide range of pedagogical strategies in three intelligence areas initially
- to discuss practical classroom issues

- to provide a forum (something rare, if not unique, in Irish educational experience) in which teachers from both primary and second-level schools could discuss pedagogical, curricular and assessment issues with a common focus.

Teachers were asked to plan and teach, assess and evaluate at least three lessons before the next meeting. It was apparent from the feedback that many teachers were already making some use of MI strategies in their teaching, and that for them this work would be an extension or development of existing practice. A strong sense of commitment and enthusiasm could be gleaned from the participating teachers. This was evinced by their presence, participation and post-colloquy comments. Among the practical concerns raised were reaction from colleagues, level of classroom noise, time factors (especially for planning) and the fear that some active learning strategies might not be as effective as existing didactic approaches. Teachers in the group were quite experienced, some having recently pursued post-graduate studies, others being active in curriculum development projects in various subjects.

A total of thirty-three teachers attended the launch of the MI Action Research Project in January 1998.

Table 1: Number of Teachers by gender and by school-level:

	PRIMARY	**SECOND LEVEL**	**TOTAL**
MALE	**4**	**6**	**10**
FEMALE	**8**	**15**	**23**
TOTAL	**12**	**21**	**33**

Table 2: Number of Teachers by school-level and by sex of students in school:

	PRIMARY	**SECOND LEVEL**	**TOTAL**
SINGLE-SEX: MALE	**3**	**5**	**8**
SINGLE-SEX: FEMALE	**4**	**6**	**10**

CO-EDUCATIONAL	**5**	**10**	**15**
TOTAL	**12**	**21**	**33**

STARTING POINTS: TEACHING STRATEGIES

Teachers began their explorations of MI theory using a number of teaching strategies under each of the intelligences. These strategies were drawn from the literature on MI theory in practice. Strategies were "used as starting points, very few people took them in raw form without adapting them" (Hanafin 1997b). For some teachers these were new and innovative ways of approaching pedagogy: One teacher commented: "there is an awareness of students' intelligences/strengths and respect for all intelligences. I use/exploit several intelligences in any class period" (Second-level teacher, Teacher questionnaire). For others, the new element was the naming of the various intelligences: "I have used these approaches in my teaching previously but I didn't realise they were multiple intelligences approaches. I wouldn't say I used them daily up to now but maybe I used one or two weekly" (Primary Teacher, Phase II, lesson data).

The use of MI strategies consolidated or extended existing pedagogical approaches: "I have always used a variety of methods to get points of information or different topics across to pupils. I would have called it my 'mental acrobatics' approach" (Phase II, Lesson data). Teachers' professional experience recognised the need for diverse approaches: "I would have endeavored at various stages to vary the presentation of material depending on the maturity and academic status of the group" (Phase II, lesson data). Some teachers had exposure to the theory of multiple intelligences prior to this: "I have been working with Anne Fleischmann for two years on MI strategies" (Phase II, lesson data). Multiple Intelligences strategies affirmed existing practice and provided a structure and language for teachers to articulate their approaches to pedagogy and make explicit their intuitive theories about the differing strengths of their students. This provided a base from which to move forward, allowing the movement from surface application to more complex interpretation, from tentative initial explorations to deeper and more fundamental questions around the theory of Multiple Intelligences. These approaches provided an accessible, tangible, easily applicable and perhaps necessary form of what is a complex theory. Gardner (1995) agrees with this view:

> Initially, all applications of a novel education concept will be surface; that is necessary and not in itself bad. However, if applications remain at the superficial level, then educational progress will be limited (1995, p16).

Hanafin (1997c) argues that: '… it may well be necessary to interpret the theory at a level of 'new strategies' or 'more mental acrobatics' before or in addition to interpreting the theory at a level which constructs intelligence more equally' (p6). The experimentation with a variety of teaching approaches was a necessary first step in the experimentation with and implementation of MI theory into practice. From an experimental point of view, teaching strategies allowed teachers to confirm intuitive beliefs about students diverse learning profiles and see how diverse intelligence profiles might be activated using these approaches. From a developmental point of view, these strategies provided the initial inroads into the theory and a base from which to explore the theory at a deeper level.

The following is a selection of some of the approaches used by teachers in the early stages of the project in an attempt to activate learners' diverse intelligences.

APPROACHES AND STRATEGIES USED TO ACTIVATE DIFFERENT INTELLIGENCES
Logical-Mathematical

- Sequencing activities for reading passages in English and History: Students were given sentences (arranged in the incorrect order) from a story and asked to place them in the correct order to make a logical sequence. Similarly students were given dates of historical events and asked to arrange them sequentially.
- Identifying sequences in musical passages: Students were divided into groups and given a set of cards with pictures of animals on them. They listened to a recording of 'Carnival of the Animals' and had to sequence the cards in the order in which they 'heard' the animals.
- Designing questionnaires on the value of travelling abroad: using brainstorming to generate questions for the survey, the students then organised the questions into a sequence. The data from the survey was presented using information grids, block graphs, line graphs and pie charts.
- Use of triangular graphics: to show the social differentiation of different classes during the French Revolution.
- Using codes to communicate messages: As part of a project on the French Revolution, Fifth students had to design a code to escape from the Bastille. A Sixth class group explained the Braille alphabet and used it to communicate messages.
- Use of cognitive organisers for lesson content. Use of triangular graphics to show the social differentiation of the different classes – this idea was used to explain the different social classes in France at the outbreak of the French Revolution

- Use of analogies in various subjects to develop learners' ability to make connections

Visual-Spatial:
Almost all of the teachers used card games in particular in a variety of subjects. Board games were devised and constructed by both teachers and learners. These included a Snakes & Ladders type game for explaining the concept of income and expenditure and an Irish language game with questions and answers on the European union. Other Visual-Spatial strategies included:

- 3D models of the physical features of France: Sixth class students were divided into four groups – rivers, mountains, cities and borders and constructed pulp models of each with labels attached
- Constructing paper models of various body systems: Groups of First years and Third years cut out, assembled and constructed paper models of the skeletal and breathing systems. Names and functions of each part were then attached
- Teaching vocabulary using concrete objects: First years learned the names of rooms and items of furniture using a doll's house
- Making a short video presentation of project undertaken: A number of groups undertook project work and presented their work to the camera
- Board games – One teacher used the game of snakes and ladders to explain the concepts of income and expenditure. Another used it in the exploration of the French Revolution
- Use of graphic organisers to help structure and present essay content – use of terms such as topic, supporting sentence, supporting details. One teacher commented that "initially pupils found it difficult to make such a detailed plan of the essay. It took a lot of practice to implement the strategy, would prove very useful should the class continue to use them over time" (Phase II, Lesson Data)

Interpersonal:

- Groups of learners worked together preparing and presenting different aspects of a given theme *e.g.* a project on the environment involved breaking the class into groups of four or five, each taking a sub-theme; pollution, global warming, recycling *etc.*
- Classes were broken into small groups or pairs to work together on the same set of problems or just as a means of sharing information and ideas about a particular topic.
- Students teaching and examining each other

Gardner (1983) defines the Interpersonal intelligence as "the ability to notice and make distinctions among other individuals and, in particular, among their moods, temperaments, motivations and intentions and to be able to act accordingly".

It seems from the lesson data that some of the methods employed by teachers valid ways of activating the Interpersonal intelligence. Group work made some students aware of the co-operation needed to carry out a task and so they modified their behaviour accordingly: "'Messers' and 'clowns' were disciplined by the competitive nature of the task" (Phase II, lesson data). Not all, however, were comfortable using these approaches. One teacher commented that one of her "highest achievers or most academic" did not like working with her classmates on projects. In the same class two students who would be considered less able in traditional areas, needing a "push or encouragement", produced far superior work than the rest. One second-level teacher remarked that some children felt "threatened" in the group situations which might lead to the conclusion that these students preferred the "anonymity" of whole group approaches or a preference to work by themselves. Another teacher was worried about the prospect of developing a selfishness in children who like to work by themselves. These comments highlight the tension for some between the need to respect an individual's learning style and at the same time activate or develop areas where learners were less comfortable.

Bodily-Kinesthetic

- Pupils physically representing the composition and movement of solids, liquids and gases.
- Heart rate and circulation in a P.E. lesson where students as blood cells follow a circuit in the hall designed to resemble the blood flow circuit around the heart and through the body. Exercise is repeated at different speeds to gauge differences in pulse and heartbeat.

Musical:

- Songs relating to project themes *e.g.* "Les Miserables" used with an exploration of the French Revolution – 'Do you Hear the People Sing?' This song was used in conjunction with a number of other approaches to explain the concept of inequality to students.
- Students singing the multiplication tables
- Using Music to convey mood – one teacher focused specifically in one lesson on the value of music for expressing different moods and emotions. The students picked pieces of music to suit particular poems and discussed the suitability of the piece of music to the poem. Students clearly saw a value in this approach: 'teaches you about poetry', 'tells more about poem, about music' 'get a different perspective', can use your imagination more'

Verbal-Linguistic

Class discussions on various topics. Oral and written presentation of material for project work

- Using texts as sources of information
- Brainstorming
- Use of courtroom type procedures to present content

Intrapersonal:
The main way in which teachers worked on the intrapersonal intelligences was through the completion of reflective templates, logs and journals. These were sometimes incorporated with portfolio work. Some teachers found it is easier to devise teaching approaches for the other intelligences, one teacher commented that it was "difficult to work directly in this area" (Phase II, lesson data).

Project work proved to be extremely valuable for incorporating most of the intelligence areas. Some teachers expressed concern at "only using a few intelligences" while others were concerned about trying to incorporate them all. While most topics can be approached in a number of ways, every subject does not lend itself to being viewed with equal clarity through the lens of each of the eight intelligences. One 5th class teacher in the above example commented that "It was difficult to set up logical-mathematical activities that would really integrate. I'm not so sure about dragging in a puzzle or artwork just to have that intelligence included" (ibid.). Clearly, in this example there is a great number of teaching approaches used. His comments on the use of strategies for the sake of using them echoes Gardner's (1995) remarks about it being a waste of time and effort to attempt to approach every topic in as many ways as there are intelligences. Therefore trying to drag in an intelligence for the sake of it would inevitably lead to a cosmetic treatment of that intelligence and consequently a reductionist interpretation of the theory.

REPORTED BENEFITS OF MI APPROACHES

GREATER ACCESS TO LEARNING

Some teachers assessed their class profile and felt that focusing on a particular intelligence area made learning more accessible. The following examples from two teachers illustrate this. One second-level teacher writes:

> The students in this particular class spend a lot of time watching T.V. and video, therefore they respond very quickly to the visual. They also spend a lot of time 'doodling' in class, and so, are ready and willing to draw. I would, therefore, use this approach again as I believe it provides a pathway that is accessible to these students (Second-level teacher, Phase II, lesson data).

This teacher saw the visual-spatial intelligence as a particularly appropriate pathway to

learning for these students and referred to the "power of visualisation for those who have difficulties with the language of poetry" (Phase II, lesson data). The teacher describes her 2nd year class as mixed-ability, preparing for Junior Certificate and attempting ordinary level paper: "They find the 'studied' poetry section very difficult. With a clear visual approach to the poem, these difficulties are minimised" (ibid.). The value of using alternative gateways for those who may be denied access through the linguistic emphasised: "Acting out and drawing the poem showed the power of visuals for those who have difficulty with language" (Phase II, lesson data).

Similarly, a second-level teacher of science assessed the intelligence profile of her class and adjusted her teaching accordingly. She describes her class as: "not strong academically but very strong in the interpersonal. They have a constant need/urge to communicate with each other, making it very difficult for one teacher to hold their attention at one time" (Second-level teacher, Phase II, Lesson Data). Because of their need to communicate with one another, and their resistance to 'chalk and talk', the teacher organised the learning in groups where each group had to cut out, label and discuss, parts of the skeletal, digestive, and respiratory systems. Her lesson plan for the teaching of the skeletal system was outlined as follows:

> Class will be divided into groups – each group to construct a paper skeleton. Patterns (small scale) will be given out and each member of the group will be assigned a bone or bones. Patterns will have to be scaled up, each bone will be drawn and cut from A4 paper and labelled. Using staples and textbook diagram as a guide, skeletons will be assembled and hung in the classroom (Phase II, Lesson Data).

Overall, data from the MI project suggests that many teachers became more aware of their own intelligence profiles and that of their learners, and attempted to match their teaching styles accordingly. This meant the opening up of more avenues to learning than would have previously been the case. For some, this was an uneasy shift from the comfortable and familiar to the uncertain and the unknown. For others, it reinforced what they had always believed. One teacher at second-level comments that a key point in his journey with the project was: "re-stressing the need for different modes of media/approach to match the various intelligences" (Phase II, Lesson Data). In some cases, teachers looked at the entire class profile, and found approaches concomitant with their class as a whole. The visual-spatial, bodily-kinaesthetic, and interpersonal intelligences were the main areas drawn upon as a result of this.

The use of multiple teaching and learning strategies was the principal means by which teachers sought to activate learners' different intelligences, using different methods to unlock different gateways to learning. In this way teachers sought to match their teaching styles to the diverse range of intelligences in front of them. One teacher of 5th class boys describes what MI

teaching means for him and how it can used to open doorways into learning:

> MI is a positive philosophy in education which looks for strengths in people and really values them. In the MI classroom, we use these strengths as doorways into learning. Teaching with MI means: reaching for a story, a poem, a drawing, a song, a quiz or a dance. In short, anything which will help a child connect with a concept or new skill (MI Bulletin 2, p20).

It appears to be the naming of different approaches within the context of MI and the communication of this to the learners that made a significant difference. The same class teacher placed great emphasis on the pupils' awareness of different strengths, and communicating this regularly to students:

> An important part of our classwork is learning that we all have different interests and talents … we're learning that when we come across something new, certain avenues to learning will work very well for us (Irish Times, E&L, 20 May 1997, p2).

GREATER LEARNER PARTICIPATION

A majority of teachers commented that student participation was enhanced by MI approaches. This was mainly as a result of groupwork approaches and project work. Several teachers commented that participation levels were enhanced because of novelty or using game type approaches: "When the lesson is organised in a different way, emphasis on learning through fun – 'Game' approach, student participation is at a much higher level – more spontaneous. (Second-level teacher, Music lesson, Phase II lesson data). Allowing children to take responsibility for their learning also appears to have been a contributing factor. Teachers reported than when they were "less directive", student participation increased. One primary teacher commented that the lesson was "conducted without any input from me, other than at the planning stage" (Phase II, Lesson Data). The main approaches consisted of "pupils teaching pupils, pupil-to-pupil communication, [and] pupils assessing pupils' work" (ibid.).

Classroom topography was also significant in terms of enabling participation: "changing the physical environment helped, allowing different spaces to be used" (Primary teacher, Phase II, Lesson Data). Sotto (1994) suggests that the placing of learners in circles or groups is a very effective means of encouraging learner participation. One teacher at second level comments that awareness of MI has made him "hate more than ever seats arranged in a linear fashion" (Phase II, Lesson Data). It should be noted that chairs in circles or rearrangement of classroom furniture can often be emblems more than indicators of equality. Emblems of equality can exist without genuine equality where difference is recognised and valued. One can rearrange seating to enable greater

participation while retaining a mindset where the linguistic and the logical-mathematical are enthroned.

Enhanced participation was evinced by more contributions, particularly from "less academic" students, increased interaction among learners, increased responsibility, and lack of alienation.

More contributions from students

Data from the MI Project indicate far greater levels of interaction amongst learners than had previously been the case. A teacher at primary level, following a project work on holidays, highlighted increased levels of interaction where 'weaker' pupils contributed because of different approaches to content:

> I feel the lessons I used were socially and educationally valuable. They helped weaker pupils to contribute to the lessons and there was more interaction between the pupils. This was in contrast to what usually happens when I use the more traditional methods (Phase II, Lesson Data).

Teachers reported that some students were able to express themselves a lot more within the context of a smaller learning group. A primary-level teacher remarked: "Within a group situation quieter students displayed quite assertive characteristics" (Phase II, Lesson Data). Another teacher at primary level commented in her lesson evaluation that: "Some who often opt out seemed to be able to enter into this work" (Phase II, Lesson data). The realisation that it was okay to be wrong enabled greater participation: "One weak child initially shied away – afraid of not knowing the answers but because some cards had questions that no one knew answers to he became interested. Not knowing the answers applied to all so everyone had to tune in and remember" (Phase II, lesson data). This resonates with Lawrence-Lightfoot's (1998) findings that students will participate in a 'safe' environment, where there is mutual trust and support. The realisation that it was okay to be wrong encouraged greater participation and generated consultation and discussion about possible alternatives: "If they got one wrong they did not want to be told which one was wrong and set about figuring out which one" (Second-level Science Teacher, Phase II, lesson data). These views are echoed in the comments from students after this lesson: "I like it in the group because you can talk and argue about the answer" (Phase II, lesson data). Much of learners' willingness to express themselves arose in the form of consultation with other peers when they were unsure of how to do something: "They liked the fact that help was available in the group if they couldn't solve the task themselves" (Phase II, Lesson Data). One student commented: "I liked it in the group because you can be helped and give help" (Phase II, lesson data).

Student interaction

Many of the teachers reported greater participation in the form of increased interaction between peers: “In addition to increased understanding of code use and pattern, this class helped to develop interpersonal relationships and communication between pupils who wouldn’t normally interact” (Primary teacher, Phase II, Lesson Data). The class worked on a French project on Louis Braille, where pupils who already understood and practised Morse code taught it to those who were unfamiliar with it.

Students in the same class worked on a project on European countries. As part of this, students had to create a 3-D map of France containing physical features, borders and main cities. She notes similar successes in relation to participation where “pupils consulted each other throughout the activities” (Phase II, Lesson data). She used the following approaches: “Brainstorming, categorisation of information, group discussion and planning, group tasks, group presentations, group teaching other groups, group evaluating other individual’s understanding/recall” (ibid.). Each group was responsible for different geographical features e.g. Rivers, Mountains, Cities, Borders – countries, seas. Having traced a large map of France onto blank chart paper, each group inserted its own physical features, adding labels to each one. Follow-up activities included painting and varnishing the map. Again in relation to project work on Italy, she comments on improved participation of learners. One student remarked: “the best part of the project is that we all get an even share of the work” (Video transcript, June 1997). The teacher adds that this comes “from a child who would be sidelined normally because of an inability to participate in a linguistically based project or class” (ibid.).

The extent to which this teacher’s approach was influenced by MI must be considered. In her reflective journal, the teacher writes “active learning strategies, and the MI approach was not a major undertaking. Group work procedures are routine and pupils teaching pupils a common practice” (Phase II, Lesson Data). She adds that “spatial and logical-mathematical (brainstorming and categorisation activities) approaches are relatively untapped areas for me and I was delighted by how well they worked in the classroom” (ibid.). This suggests that the added dimension for this teacher of an MI approach was the use of strategies under a wider range of intelligences. Even though she had always encouraged more than the traditional areas, MI engendered awareness of an even wider gamut of intelligences and appropriate strategies. This is shown in the contrast between her answers at the beginning of the MI experiment and three months later. At the start she was “committed to MI but unbalanced in the strategies used and intelligences used/developed” (ibid.). In response to “Where am I now?” she states: “More concerned to provide diverse approaches in an effort to maximise pupil-friendly approaches to content and learning – also, more committed to developing broader range of intelligences in pupils, particularly logical mathematical” (ibid.). Speaking

about its integration into other areas of the curriculum she states:

> … the potential for codes and pattern identification may seem detached from the curriculum at first sight, the potential is in fact limitless. Last month's lesson on geographical patterns and their influence is an example of future lessons on Morse code. Identifying and breaking and creating codes as well as integration with number patterns and sequences are planned over the coming months. Relationships and patterns in Music will also be explored (ibid.).

Much of the literature points out that learners participate when there is a positive classroom atmosphere (Sotto 1994, Lawrence-Lightfoot 1998). Greater participation is also likely to create this positive atmosphere. A teacher at primary level remarked that she "found the atmosphere in the class to be more "open" when [she] did the lessons" (Primary teacher, Phase II, lesson data).

Increased Responsibility

A teacher at primary level notes how learners took responsibility for particular tasks: "It was interesting to see how learners assumed roles within their groups or how they negotiated the tasks" (Phase II, Lesson Data). She adds that some groups "were excellent at providing tasks for each person. Other groups had to be helped to notice that a member of their group wasn't involved" (ibid.). Students were given the task of researching one European country in each group of four to five learners. In the two lessons on European countries, she wanted children to "develop co-operative skills [and to] be able to organise their tasks so that each member of the group would elect their job in working on the project" (ibid.).

The teacher concludes "for the most part, I believe that they gained." She describes these gains as largely in terms of learning about group dynamics: "They learned a little bit about dealing with frustration, in getting information, in people not playing their part". She followed these lessons with a survey on travelling abroad. Students had to "compare and contrast their findings with their own discoveries while doing their project". Among the approaches she used were: "Brainstorming – coming up with questions we wanted answered using the 5Ws, organising the questions into sequence, designing a questionnaire". Data was presented in information grids and also represented diagrammatically using block graphs, line graphs and pie-charts. Commenting on the success of the approach, the teacher writes that "the variety of intelligences used worked well [but] in some cases [she] had to change people as they were frustrated with their task. It wasn't their forte". For example, "In a number of cases I picked the wrong strategy or gateway for the wrong pupil, e.g. constructing a graph – some people were better at coming up with questions for the questionnaire"

(Phase II, Lesson Data). She adds that in future she would change her approach: "Perhaps I would allow them to pick their 'gateway' next time if doing similar work or else use more of the intelligences".

Lack of alienation

One second-level Science teacher felt that using MI approaches, where she attempted to match teaching and learning styles enabled students to participate a lot more and avoided the boredom they may otherwise have experienced. She commented that: "they enjoyed teaching each other and examining each other and then asked if they could stick the questions into their copies" (Phase II, Lesson data) and later remarked that they enjoyed what could otherwise "have been a boring lesson". She also commented that it generated a lot of discussion about the different sizes of bones, why some were bigger than others and why some had particular shapes etc. She adopted a similar approach with the teaching of the breathing system and digestive systems: "Students will cut out the different parts of the digestive system from the photocopies supplied. They will then cut out the names and functions and assemble in groups of three i.e. part, name, function". The teacher adds that: "they enjoyed teaching other and examining each other" (Phase II, Lesson Data). Where teachers set up structures which allow for greater peer interaction and participation, these can lead to desirable affective outcomes.

In general, participation levels appear to have been enhanced when teachers used different approaches to learning in their classrooms. It could be argued that any new approach can generate interest and as a result, enhance participation levels. The novelty of the approach may not have anything to do with a multiple intelligences framework. Probably the strongest findings to emerge from this account of enhanced learner participation is that it seemed to occur when learners did not feel pressurised to contribute in a whole class situation, and when they felt their contributions were valued. Enhanced participation levels are strongly linked with a climate that values all contributions. Such a climate is one of respect for different intelligence strengths, one where all learners can participate in ways that are comfortable for them. This is summed up in the comments of one second-level teacher who states: Within a group even the shy, quiet student participated because *choice* was given." (Stage 2, lesson data).

IMPROVED LEARNING OUTCOMES

Teachers reported a number of improved academic and affective outcomes as a result of MI approaches in their classrooms. Enhanced academic outcomes ranged from improved attention, concentration and memory to greater understanding and ownership of lesson content. A number of these outcomes are discussed here in more

detail. This section also looks at social, personal, or affective outcomes. Even though they are discussed separately, they are interconnected. Improvements in affective outcomes can lead to greater academic outcomes (Cooper and McIntyre 1996). Also, cognitive outcomes influence affective states as illustrated by the comments of this second-level teacher: "the achievement level in tests was well up, they would've been scoring in the 80s where they normally wouldn't have so it did help their self-esteem" (Video transcript, May 1997).

A number of factors influenced better academic and social outcomes. Multiple representations of content was particularly significant, with teachers commenting on the value of visual-spatial and interpersonal approaches in particular. Drawing on students' own experiences was also an important factor: "understanding was enhanced because they could make connections all the time with their own experiences" (Second-level teacher, Phase II, Lesson Data). Improved academic outcomes were evinced by better grade levels, greater recall of material, interest in subject, type of student response, desire to learn more, better understanding and ownership of material.

Grade levels

One second-level mathematics teacher, emphasises the benefits of MI approaches in terms of better grades: "That the learning process had improved was borne out by the results of a test in which the pupils scored higher than in other tests done in TY (Transition Year)" (Video transcript, May 1997). The teacher's aim was to introduce students to the concept of probability in Mathematics. She used a variety of approaches to teach the concept of probability in Mathematics. The main sections of the lesson involved discussions, explanations, practical demonstrations, and group work. She noted that students scored better in this particular topic than in others: "End of section results were higher than for other topics I had taught, especially for the weaker one-third of the class. Pupils had a better understanding of the material".

This teacher draws attention to the value of multiple representations of topics for highlighting misconceptions and promoting understanding. This was a new element in her approach. She comments on the value of visual-spatial approaches in particular: "I thought I had taught them things but when they began putting them on posters I saw that they had misunderstood things. If I had never used the visual I'd never have come to realise that they had incorrect understandings" (Video transcript, May 1998). She adds that "Visual presentation by the students showed me how pupils could fail to understand concepts and I would never have known it in the "chalk and talk" method of teaching" (MI Bulletin, No. 2). She adds that she "saw the value of peer learning, in groups, pupils were able to correct one another".

Recall

Using a variety of approaches helped some students to remember and recall more information. One 5th Year student of Irish comments: "Using different methods makes it more interesting and entertaining and so I remember it" (Student evaluation). Another student, in the same class, writes that the MI approach works because "the things you do stay in your head without having to do much studying" (Student evaluation). For some teachers, the fact that students could recall a lot more in the end-of-week assessment was indication of success: "It resulted in excellent recall of map details among pupils and in formal assessment the class performed very well with a class average of 87.5% recall in weekly test" (Phase II, lesson data). Teaching approaches in this case included: "Brainstorming, categorisation of information, group discussion and planning, group tasks, group presentations, group teaching other groups, group evaluating other individual's understanding/recall" (ibid.).

Interest in subject

Teachers in general reported that their students were more interested in subjects as a result of new approaches. A second-level teacher asked his 5th Year students whether or not the teaching of Irish in different ways had increased their interest in the subject. Some students were very positive about Irish as a result of using a variety of approaches: "I am definitely more interested in putting more effort into trying to learn Irish than I have been in the Junior Cert and Primary school when I absolutely hated the subject. I realise that it's not a boring useless subject" (Student evaluation). Another commented that it wasn't as "boring for one. You don't just sit and write all the time" (Student evaluation). This short account from one student indicates how MI increased his interest levels, and also how he felt prior to an MI approach:

> Before the MI programme the restricted type of teaching caused me to dislike the language and to hold back from wanting to learn it but by using different approaches a desire to learn the language has been fostered once again … Previous methods of learning were kept to a strict plan and varied little from grammar rules and essay writing. The MI programme includes far more varied methods of Irish and Irish culture. Céilís, table quizzes etc. have all helped me to see a side of the Irish language that previously I had not known existed (Student evaluation)

For one of the lessons, the teacher asked the class, in pairs, to devise a dictionary, identifying "the key words from stories, poetry, essays, letters, words describing characters, places etc" (Phase II, Lesson Data). Each pair had to compile a dictionary. All of these were put together with the aid of a computer. Commenting on student interest and enthusiasm, he reports that: "one pair of students were very keen – the completed dictionary was handed in to the secretary by one of the student's mothers as they were absent that day – with a note attached – in Irish!!" (ibid.).

Student response

One primary teacher commented that pupils responded better when they were given more choices. This arose from a shift in his teaching style: "Where I can offer my pupils choice I get a better response orally, on task, in presentation. Where I become motivator, adviser if required rather than dictator, they run harder with the task" (Phase II Lesson Data). Others emphasised the quality of student response. A teacher at primary level states: "students asked interesting questions not encountered with chalk-talk approach" (Phase II, Lesson Data).

Desire to learn more

Improved outcomes occurred in the form of students wishing to learn more: "students were excited at the prospect of discovering more and I was excited about this" (Primary Teacher, Phase II, Lesson Data). Another teacher, at primary level, notes how the construction of a model of the physical features of France generated an interest among pupils in pursuing further questions about the location of particular features: "Further lessons were generated by pupils own observations, e.g. how borders follow physical features – the location of cities and rivers etc." (Phase II, Lesson Data). A fifth year student comments on his attitude towards Irish following the use of different learning approaches: "I have a new desire and hunger for it as a subject" (Phase II, Lesson Data).

Understanding

MI approaches helped some students to develop a greater understanding of lesson content. Following a scripture lesson, which had been taught using courtroom procedures, a second-level teacher remarked that "the worksheet from students' book was filled in with greater ease and understanding after the above approach" (Phase II, Lesson Data). One student commented that different approaches had "made it easier to understand and remember Irish" (Student evaluation). Another student in the same class concurred with this but also commented on his difficulties understanding certain aspects of the subject, particularly grammar:

> [it] has helped me in my understanding of Irish because it has greatly widened my vocabulary and made it easier to understand the Irish passage, although some of the longer questions in the exam can sometimes be hard to understand. I still have difficulties in writing Irish essays, conversations, letters etc due to the fact that I could never understand the grammar. In general I think I have learned to understand Irish a lot better but I still cannot write Irish other than answers to questions (Student evaluation).

Greater ownership

Some teachers reported "greater ownership by pupils of the material covered" (Primary teacher, Phase II, Lesson Data). Another teacher at primary level commented:

> Pupils were involved and responsible for lesson progression throughout. They were highly motivated and active throughout and expressed great appreciation for their sense of ownership both of the lesson and of the map (Phase II, lesson data).

Interestingly, a second-level teacher remarked that even with the requirement of the written exam, understanding could be enhanced if the learning process was more varied:

> even within the constraints of the exam system – 'the product' – it would still be feasible to have the preparation/process different – an MI approach e.g. Imagery in literature – teach through the visual intelligences for understanding. The transfer of understanding to the written should be easier (Teacher questionnaire, February 1998)

Affective Outcomes

Enhanced social, personal or affective outcomes were widely reported. Outcomes of this nature can also be considered as indicators of learner participation. The comments of one primary teacher show that desirable affective states or outcomes such as enthusiasm for the lesson influence learners' participation: "the children are definitely more enthused about the lesson and as a result participate actively in the classes. It helps to arouse their interest and keep it" (Primary teacher, teacher questionnaire).

Enjoyment of lessons

Many teachers commented on the levels of enjoyment and enthusiasm as a result of using MI strategies. These comments related both to themselves and their students. One primary teacher referred to her "excitement and enjoyment in watching the class being so involved" (Phase II, Lesson Data). A primary teacher comments: "New approaches have unearthed different talents and given the boys a 'buzz'" (Phase II, Lesson Data). While enjoyment of learning is important, it is also important that students are developing intellectually, as one primary teacher notes. In her reflective journal she asks: "Do enjoyment and involvement mean that they are developing in the specific area?" (Phase II, Lesson Data). While enjoyment is an important outcome of learning, it should not be seen in isolation. This is resonant with Newmann et al. (1996) who argue that the enhancement of the intellectual quality of students' work must remain to the forefront of educational reforms.

Autonomy

Teachers reported that learners were becoming more autonomous, taking more responsibility for their work, and not looking to the teacher all of the time for direction. A teacher at second level remarks: "students more involved, directing their own learning. They're more aware of their learning and are learning to take responsibility for it" (Teacher

questionnaire). For a number of teachers, MI approaches had brought about a different learning environment, where students were allowed greater autonomy, but this created its own problems. “In one sense it was less structured, and in another sense it had to be more structured. They had to have direction, yet they had to have the ability to cope with freedom” (Teacher presentation, April 1998). Her main concern centred around the balance between interference and direction of children’s work:

> I didn’t interfere, I wasn’t sure how much should come from the children and how much I should direct .. I was always conscious or unsure about this … Should I have helped them to fix up the charts in a more organised fashion? I could’ve intervened and said that’s wrong but I didn’t, I suppose we get into a habit of correcting so often, you wonder should you let them go. Sometimes I was called on to negotiate in disputes, and tried to get them to say what’s the best thing here, but that takes an awful lot of energy (Video transcript, April 1997).

These thoughts echo her earlier concerns about teacher intervention in the learning experience or allowing children to work with relative freedom: “My understanding of how to develop these intelligences is hazy. Are the children to be directed or is direction to be at a minimum?” (Phase II, Lesson Data). The balance between teacher intervention and student and student autonomy is highlighted by Sotto (1994): “Too much intervention on the part of the teacher may inhibit participation; too little may cause some learners to feel they are wasting their time” (p87).

Empowerment

One sixth class primary teacher commented that the MI approaches she used in her classroom led to greater empowerment of learners. She made these comments specifically in relation to pupil evaluation of their own work and that of their peers. The context of her MI experiment was a project on European countries. As well as teacher evaluation of pupils’ work through observation, discussion, written assessments, oral and visual presentations, pupils had to evaluate their own and others’ work. This was done through “discussion, individual and group drafting of information, layout and presentation, correcting, redrafting, and group consultation prior to final submission and staging of completed presentations” (MI Bulletin, No.2, p18). Commenting on the value of this process, she states that it “helped to empower the learner and replicated ‘real life’ work situations in that it allowed for reflection, consultation and revision while placing responsibility for personal endeavour on the individual” (ibid.). She concludes that by allowing pupils to partake in the evaluation process, it resulted in a “more meaningful self-referenced method of assessment in which the pupils became aware of, and responsible

for their own learning" (ibid.). At a presentation to participating teachers on her work, she argued that teachers generally worked from

> a deficit approach to marking and assessment where the attention was mainly given to errors and mistakes – trained eyes which race through the page in order to find the mistakes, as opposed to valuing the information that is correct (Video transcript, 4 June 1997).

Commenting on the value of her revised assessment process, she states: "it empowered learners as it bypassed the danger of norm-referencing" (ibid.).

OBSTACLES IN THE WAY OF IMPLEMENTATION

Examination system

The examination system at second level was cited as one of the main reasons for 'neglecting' the development of multiple intelligences:

> system is overloaded towards exams and therefore tuition time. No time allowed for reflection, research by teachers. The 3Rs are very much alive and kicking into the next century (Second-level teacher, Teacher questionnaire).

Another teacher at second level commented that the "present school system is geared for Leaving and Junior Certs" but added that changes were occurring with the Transition Year and Leaving Certificate Applied. These areas, he felt, would "suit learning through MI" (ibid). This leads to the conclusion that teachers felt MI approaches to be more suited to a more flexible curriculum, without the pressures of examinations, and also to alternative courses which have a less academic emphasis. A teacher at second level endorses this view: "MI can be adopted more realistically in non-exam classes e.g. Transition Year, 1st Year" (Teacher questionnaire). Similarly, another second-level teacher states that "in the short term [adoption of MI approaches is not very realistic] but with new courses which will require new approaches, schools will have to change" (ibid.). Teachers are likely to have felt that MI was more compatible with non-examination classes because such classes were the focus of the MI project from the beginning. This however, did not preclude teachers from applying the theory in whatever class they wished.

Teachers at primary level felt impeded by the entrance exams to second level and remarked on its effects on the curriculum at senior primary:

> The original new curriculum would have in its breadth and in its intention served them well, but this is not be the case where there is extensive 'narrowing' of curriculum especially at senior primary (Primary Teacher).

This narrowing of curriculum in favour of the '3Rs' was a recurring theme in the comments of primary teachers: "with 6th class there's an element of tunnel vision for the first half of the year with the emphasis on Irish, English, and Maths and because of entrance exams" (ibid.). Teachers at second level felt pressurised by the examination system and the need for points to gain access to third level. Teachers at primary level felt pressurised by the examinations for entry to second level: "top-down pressure – 3rd –2nd – 1st level results in value being placed mainly on 'core' academic subjects by most parents and teachers" (Teacher questionnaire). Presumably this teacher is referring to the Irish, English, and Mathematics as he frequently comments on children being "chased through the system by the 3Rs" (Phase II, Lesson Data).

Course Coverage

Because of the examination system, teachers felt under pressure to 'cover' courses: "present school system is exam-driven that emphasis has to be on covering a course" (Second-level teacher). Another second-level teacher felt that the combination of both of these interrelated factors eliminated the possibility of developing a learner's multiple intelligences: "It is impossible to cover courses and at the same time cater for the intelligence profiles of all students" (Second-level teacher). Teachers, for the most part, saw course coverage and development of learners' multiple intelligences as conflicting aims. One could not develop a learner's multiple intelligences and at the same time 'cover' a course: "The need to cover a certain amount of curricula and the push for good exam results obliterates the possible development of multiple intelligences" (Second-level teacher, Teacher questionnaire).

A number of teachers referred to the role of the Department of Education, and the inspectorate, and how they could aid the implementation of MI in schools:

> for MI to be adopted generally, the benefits need to be acknowledged by the Department so that there would be better choice on the syllabus and a 'thinner' syllabus to allow for the fact that MI takes longer than talk and chalk (Second-level teacher).

This statement indicates that change is contingent upon approval from the Department of Education and Science. There is also a view within this statement that MI does not involve 'talk and chalk'. 'Talk and chalk' could certainly be described as a verbal-linguistic approach to learning. In fact, it is an approach which can tap into more than just the linguistic intelligence. Blackboard representations of content, in verbal or diagrammatic form can be very useful for illuminating discussion.

A teacher at primary level also emphasised the role of the inspectorate in the development of MI in schools and suggested that there was a gap between what inspectors said about MI and what they actually did: “I query the attention that Departmental Inspectors give to the area of multiple intelligences, they may speak the language but they do not act the part!” (Primary teacher, Teacher questionnaire). There is a clear assumption here, even an expectation, that classroom practice is driven by inspectoral dictat. There is a great degree of centralisation in relation to the primary-level curriculum which may lead to methodological sameness. In addition, the inspectorate is greatly involved in school practice at primary level (through visits and inspections etc.) and they are also greatly involved in the professional development of teachers (particularly in the one-week annual “summer courses”). Nonetheless, teachers at primary level have a substantial level of autonomy in their classrooms and in their practice and it is likely that they do not rely on inspectors to approve changes in practice of the kind which occurred among teachers on the MI project. As another primary teacher states: “when a teacher works with a class, it is up to them what approach to use (Teacher questionnaire).

The previous quote appears to indicate a need for official sanction of revisions in practice of the kind in MI classrooms. This is not altogether surprising perhaps in the light of teachers’ reported perceptions of the amount of change which occurred in their classroom practice. This may be particularly true in the early days of revised practice rooted in changing understandings of learners’ needs in MI classrooms. As change becomes normalised, it is likely that less formal approval would be required to underpin teachers’ MI classroom practices. In this context, the important role played by the inspectorate in classrooms in Ireland is highlighted by a comment of a second-level teacher who notes

> the inspector for the whole-school evaluation commented specifically on the levels of understanding exhibited by the pupils, I would never have pursued this as much were it not for the MI project (Oral communication with second-level teacher, January 1999).

Class size

Several teachers felt that large classes were unfavourable to the development of MI in schools: “Class sizes are too big for teachers to develop learners’ MI” (Primary-level teacher, teacher questionnaire). Another teacher at primary level states: “individual needs are not catered for neither are individual intelligences due to large number classes” (Teacher questionnaire). Teachers at second level concurred with this:

> large class groupings make it extremely difficult to put theory into practice – to organise individual work, group work, project work, discussion etc. and uses so much of the teacher's energy just to maintain discipline/order that there's little left over to take on new creative approaches" (Teacher questionnaire).

There is no emphasis or suggestion in the literature that MI approaches cannot be adopted in large classes. Much of MI practice advocates that learners take greater responsibility for their own learning. The comments from this teacher suggest that she organises these activities for learners all the time and that they require an added disciplinary emphasis. Teachers certainly have commented on the "risk" factor associated with less traditional approaches, but on the whole, they were very positive about how these structures engaged and involved more learners than would normally be the case.

Time factor

The question of time for the planning and implementation of new approaches is a recurring one in the teachers' lesson notes, evaluations, and reflective journals, of teachers at both primary and second level. A number of teachers felt that lack of time was a major factor influencing the emphasis on intelligences in the academic sense. More time was needed both in terms of planning and application of MI in the classroom:

> strong emphasis placed on logical-mathematical and linguistic particularly in senior classes. TIME is a big factor – not only in preparation of various approaches to stimulate other intelligences but also in the application of these approaches (Primary teacher, Teacher questionnaire).

Similarly at second level, teachers felt that the present system did not cater adequately for all intelligences because "space is at a premium on the time-table" (Teacher questionnaire). Teachers at primary level however, had more freedom to overcome time related obstacles: "time factors make it difficult to cater for all students, having said that, any lesson can be extended" (Teacher questionnaire).

The question of time was discussed at project meetings and seminars. At the assessment seminar held in UCC in November 1997, there was a feeling that issues of planning and methodology consume a lot of mental energy at the beginning, but they become more routine as time progresses. Steve Seidel of Project Zero in Harvard, remarked that the issue of time becomes substantially less important as one becomes more familiar with a particular initiative (Video transcript, 24 November 1997). Speaking particularly about portfolio assessment, he noted that the question of time was less of an issue by the middle of the second year. This view was endorsed in an Irish context by Sheila O'Driscoll, in

relation to the Leaving Certificate Applied Programme. Seidel added that in the first year, teachers are not willing to "let anything go" as new approaches are put "on top" of existing practices. Time is less of a problem, he argued, when both teachers and students are more familiar with new approaches and a model of learning as partnership is developed. This unwillingness to "let go" on the part of teachers is evident in the project data: "MI approaches can only be adopted as an 'add on' and cannot replace existing approaches unless curriculum content and assessment are reviewed" (Primary teacher, Teacher questionnaire). Issues of time assume less significance, as teachers and pupils become more familiar with new approaches to learning. It is also likely that the adoption of new approaches to learning is more a question of shifting time than adding time on. For example, peer assessment can alleviate much of the responsibility on teachers for corrections all of the time. That is not to say that teachers should or do abdicate responsibility for assessing pupils' work with new approaches.

Lack of awareness

For some teachers, implementation of MI had more to do with factors such as teacher attitude and awareness, rather than issues of time, class size, or external examinations: "Most teachers are unaware of MI which is a major problem" (Teacher questionnaire). Some felt that this ought to be communicated to learners also:

> all teachers aren't aware of MI – though some may already be using it without knowing they are. I think that it's a good idea to make students aware of the intelligences they're using when they're using them. This requires an awareness of MI on the teacher's part and alertness to indicate to the students what intelligences they're using (Teacher questionnaire).

Awareness, of course, does not always lead to change, or mean that change will be easy. Hargreaves et al. (1996) have written that the pre-eminence of academic achievement "persists in spite of the growing recognition that intelligence is much more complex and multi-dimensional than was once believed" (p27). Many of the comments of teachers indicate the difficulty involved in a change of practice even with an intellectual acceptance of new theories or ideas. One second-level teacher at the start of the Multiple Intelligences Project at UCC states: "My brain kept telling me "chalk and talk" won't just cut it anymore but going from intellectual acceptance of the MI approach to changing my practice was a much bigger step than I had thought" (Phase II, Lesson Data). Similarly a 6th class primary teacher commented:

> MI, I feel presents us with a huge challenge, that being the recognition of the multiplicity of competencies, intelligences etc. that are part of the human condition.

> The reality of moving more along these approaches is another problem (Teacher questionnaire)

Also, lack of awareness of MI *per se* does not necessarily mean that teachers are not recognising or valuing difference in their classrooms. This view was expressed by teachers during the early stages of the project:

> We looked at the question of the MI classroom. At second level, an interesting perception going back to the way schools were years ago, that there remained a possibility that there could have been a silent or unstated MI ethic in some traditional classrooms because individual teachers acknowledged and encouraged difference in a very real way (Video transcript, 9 May 1997).

Hanafin (1997b) asks whether it is possible to:

> recognise a plurality of intelligences and create learning environments which value and support learners with their different intelligence profiles without using strategies which derive ostensibly from an MI framework? (p6).

This echoes Gardner's (1995) statements about valuing difference without having heard of Multiple Intelligences:

> .....whether or not the staff have even heard of MI theory, I would be happy to send my children to a school with the following characteristics: differences among youngsters are taken seriously, knowledge about differences is shared with children and parents, children gradually assume responsibility for their own learning, and materials that are worth knowing are presented in ways that afford each child the maximum opportunity to master those materials and to show others (and themselves) what they have learned and understood (ibid., p208).

So while some accepted the theory on an intellectual level and found it difficult to change practice (as the comments of the above 6th class teacher show), others appeared to have changed their practice without necessarily undergoing a mental mindshift. For example, some teachers continued to refer their learners as "weak" or "slow", thereby defining them within dominant conceptions of intelligence.

Difficulties of leaving the comfort zone

Several teachers expressed their concerns about leaving the comfort zone, or the teaching style with which they had been most familiar. One second-level teacher states: "teachers cannot be coaxed from their comfort zones. The teaching profession although involved in the education of others spends very little time educating itself" (Teacher

questionnaire). The difficulties of leaving one's area of comfort and entering the unknown are recurring themes in teachers' lesson data.

Resistance to change

Hargreaves, Earl and Ryan (1996) state that: "recognising different forms of achievement and intelligence threatens the advantages of those groups who have traditionally benefited from an academic, *collection code* curriculum" (p101). One respondent concurred with this view, referring to the "value being placed mainly on 'core' academic subjects by most parents and a lot of teachers" (Primary teacher, Teacher questionnaire). Hargreaves et al (1996) also refer to "parental pressure for traditional academic standards and subject-based qualifications' (p106). A teacher at second level referred to the "need for parents to be educated" (Teacher questionnaire).

Parents or students do not always welcome the use of a variety of teaching approaches. Many believe that students are better served if they are taught in a traditional sense all of the time, as the comments from this second-level teacher show:

> I've had requests from parents to have children taken out of my class because they don't like my style of teaching. This happened to be the best class in the school in terms of ability. One student at Christmas time made a request to leave because at this stage the class next door had already got thirteen pages of notes. This is difficult to change, it's only gradually one can do it (Video transcript, April 1998).

In the same discussion a primary school principal added: "If it's any consolation, we've had parents in primary school requesting children change class because they are not doing enough learning off by heart" (ibid.).

Students also resisted change. Students sometimes resisted newer approaches because they were unfamiliar or uncomfortable with them. The comments of one primary teacher highlight the difficulties of changing practice for some children. He discusses their reaction to the playing of an excerpt of music. Students had to respond to the music using movement: "What was most interesting was those who were totally inhibited, these were 5th class primary 11 year olds, stuck to the ground. Some were looking around as if it was completely outside of them, some couldn't let go or relax" (ibid.).

School culture

Although participating teachers themselves felt committed to MI, they were concerned about prevailing practices within the school: "Cultural practices within schools are likely to be the main obstacles, but aren't they always!!" (Primary teacher, teacher questionnaire).

This was a fairly prevalent view at both primary and second level. In response to the question "How realistic is the adoption of MI approaches?" a teacher at second level writes: "fairly realistic – depends on the teacher, but also on the school environment within which he/she must operate. With the support of principal and staff, a lot more is possible" (ibid.).

Possibilities within constraints

The majority of teachers felt that MI could not be adopted easily within the schooling system. Course coverage, terminal written exams, time pressures, large classes, and prevailing practices, have already been cited as the main obstacles to its adoption. However, a small number of teachers were a little more positive about the school system and the possibilities within constraints. Referring to the coexistence of MI approaches and the present examination system, one second-level teacher commented:

> subject areas are potentially suitable to MI approaches, but because of exam pressures (currently verbal-linguistic and logically driven), it is difficult to accommodate both (but not impossible)" (Second-level teacher, Teacher questionnaire).

Teacher attitude was seen as crucial: "within each subject area lies the potential to develop / utilise the multiple intelligences – it's more a question of the openness on the part of the teacher and the students; and how much they trust each other" (Second-level teacher, teacher questionnaire).

For another teacher, catering for the range of intelligence profiles was seen as something individual teachers could do within the "privacy" of their own classrooms: "it works – it's not restrictive and it does not depend on the co-operation of others in the school" (Second-level teacher, Teacher questionnaire). A teacher at primary level shares this sense of freedom and individual autonomy:

> As each primary classroom is an independent republic, I feel that if teachers were 'wised up' to MI approaches they could adopt MI approaches as an integral part of their day's work, to a greater or lesser degree, given the circumstances of any particular class (Teacher questionnaire).

Another teacher, at primary level, felt that apart from the entrance exams, the development of a learner's multiple intelligences was "reasonably well served": "the cramming factor associated with 6th class aside, I think the primary classroom is a reasonable compromise between the child's need to develop and the imparting of basic skills" (Teacher questionnaire). This is an interesting comment for a number of reasons. There is an assumption in these comments that the imparting of basic skills is in some way

incongruous with approaches geared towards child development. Gardner (1991) points out that at first, a basic skills approach would appear to align itself more closely with "a mimetic educational tack" where the teacher demonstrates the desired behaviour or performance and the child replicates it. He argues that one can value basic skills and at the same time impart them through transformative methods, for example "by having children learn to write by keeping their own journals or learn to compute by supervising their own little shopping centres" (p120).

The above teacher also remarks on the "cramming factor" associated with 6th class and suggests that apart from this, the system serves the development of a learner's multiple intelligences. The cramming factor arises from the pressure exerted by entrance exams to second level. Teachers on the project have spoken at length about the distortion of curriculum in favour of the 3Rs for most of 6th class in primary school. The effects of this "cramming" and pressure because of entrance exams were noted by a 6th class teacher who stated: "each year there are cases of children suffering from ulcers, three this year" (Video transcript, March 1998).

STEPPING BEYOND THE STRATEGY

Data from Phase II show that some participants began to fundamentally question their own role as teachers, moving from blaming the learner to challenging their own re traditional assumptions about learning. In schools success is too often seen as the responsibility of the individual as opposed to the institution (Baker 1998). The comments from one second-level teacher in a designated disadvantaged area show how she was more willing to assume responsibility for the learners' success as opposed to apportioning blame for their failure. Her shift in thinking about intelligence as a single capacity to viewing it as multi-dimensional projected far greater responsibility onto her for making the learning experience accessible:

> Before I started MI, I tended to think of students in a 'single-dimensional' way. Now, I like to consider that they are 'seven-dimensional' people and if they fail to understand an exercise or fail to complete one, I now think I can make the exercise more accessible, not how can I make the student understand, or indeed blame the student (Phase II, lesson data)

The focus on learners as opposed to content, was one of the distinguishing features of MI for many teachers. This distinction was noted early in the Project and is evidenced in the feedback from teachers' discussions. The focus MI brings to the learner as opposed to the content is highlighted in the distinction made between "integration" and MI:

> From primary, the sense that MI was another name for comhtháthú, or integration, the person that said this pointed out that the key differential there is that integration

– as explicated in *Curaclam na Bunscoile 1971* – is content based, whereas MI focuses back on the learner in relation to the content, there is a view that this (MI as integration) would be a misconception (Report from primary teacher discussion, MI Seminar and workshop, 9 May 1997, UCC).

At the same meeting a second-level teacher commented: "The MI Project should take the focus off the subject, that seems to me to be the question, are we teaching children or are we teaching subjects?" (Video transcript, 9 May 1997). The prioritisation of learners above content was a significant change in emphasis for a number of teachers: "After 20 years of teaching I now see the importance of this quote 'It's not what you teach them they'll remember but how you treated them" (Second-level teacher, teacher questionnaire). Another teacher at second level also focused on the learners: "it treats the student as a many-faceted person that can be approached. It allows me to look at the student from a wider variety of angles (Teacher Questionnaire). That MI was "more child than subject" (Second- level teacher, Teacher questionnaire) was also expressed at primary level: "MI practice demands that content remains as only one aspect of learning – that the development of the learner and the learning process are also important" (ibid.).

Teachers were aware of the need to fundamentally question the institution as opposed to the individual: "MI approaches can only be adopted as an 'add on' and cannot replace existing approaches unless curriculum content and assessment are reviewed" (Teacher questionnaire). Deeper questions around changes in school culture were endemic to teachers' thinking at this time: "The situation won't change overnight. There must be a change in the mindset of a whole range of people, how will parents react, principals etc. (Video transcript, 10 May 1997).

Gardner (1997) points out that there is no single MI route but crucially he highlights the importance of teachers taking individual differences among learners very seriously. There is much evidence that teachers had begun to change their perceptions of student learning and take individual differences very seriously in the early stages of the project. Changing their practice did not always follow easily from this. Many of the comments of teachers indicate the difficulty involved in a change of practice even with an intellectual acceptance of new theories or ideas.

So while some accepted the theory on an intellectual level and found it difficult to change practice, others appear to have changed their practice without necessarily undergoing a mental mindshift. Teacher awareness is undoubtedly important, it does not necessarily mean change or that change will be easy. Teachers were very open in their descriptions of their classroom practice and their successes and failures to date. They were also willing to engage in critical analysis of the principles behind MI, and further develop and deepen their

understandings of the theory and practice. Generally, teachers were positive about their classroom experiences, but commonly observed that considerable obstacles lay ahead. One second-level teacher commented on the difficulties he perceived for the future:

> we have no idea how uncomfortable it is going to be down the line, this is a mutual support group, people are interested, interested in abandoning hierarchies, and methods which support dominant groups. It will take a lot of deconstruction and courage, let's not lose hope (Project Seminar, 10 May 1997).

Many comments reflected a concern that the contexts within which teachers were currently implementing an MI approach might not be representative of the true range of contexts within schools. It may have been perceived that there was more scope for teaching and assessing through MI in a Sixth Class or First Year than there was likely to be in later second-level classes. Students who seemed to most appreciate MI approaches were those in lower streams and less academic contexts, while students who were successful with a traditional didactic approach sometimes saw MI as an unnecessary interruption of their progress. Could an MI approach work within a streamed second-level school at all, or was streaming incompatible with an MI learning culture. There was also a question about whether students in an MI classroom would achieve as well in the basics of literacy and numeracy as their peers in a traditional classroom.

The need to 'sell' MI to parents, as well as to other audiences was raised. The credibility of alternative forms of assessment was seen as an issue for the agenda; and the 'nuts and bolts' of how to structure an MI classroom were seen as important concerns. These concerns are real ones for teachers in their day-to-day work in schools. Taken alongside the efforts teachers have been making, they indicate that the teachers were prepared to continue walking the MI journey. That journey, initially undertaken with some personal conviction, supported by a large measure of hope and faith, was continued, in the light of positive outcomes, with a stronger conviction that MI could make a difference.

CHAPTER 3

Focusing on Understanding: Report on Phase II(b) of the Project – September 1997 to June 1998

Pat Naughton

During the period from January to June 1997, Phase II of the Project had focused on the Theory of Multiple Intelligences. In that phase, the Project teachers explored possible applications of the theory to curriculum and assessment in their particular schools and classrooms. One of the issues that emerged was the role of the intelligences in enabling students to engage more deeply with concepts across the curriculum, and to represent their understanding in a variety of ways. The objectives of achieving deeper understandings in students' learning and of effectively assessing those understandings formed the basis for Phase II(b) of the Project.

Phase II(b) extended from September 1997 to June 1998. There were four interlinked aims for this phase:
(i) To explore the concept of 'teaching for understanding', and the potential application of the *Teaching for Understanding* framework
(ii) To explore the potential of portfolios for assessment purposes
(iii) To develop the practice of reflection for both teachers and students
(iv) To analyse in greater detail the utilisation of these approaches with three *Focus Groups* representing three selected contexts in the schools – the primary / second-level interface; Civic, Social and Political Education; the Transition Year Programme.

Statistics of Phase III

- *Continuity of participation*

Virtually all the teachers who had participated in the Project from January to June 1997, returned to take part in Phase II(b), the only loss being that of a primary teacher whose change of employment necessitated a move from Cork. One other second-level teacher joined the Project shortly after September 1997 – thus, the overall number of participants remained constant at 30 (11 primary and 19 second-level).

- *Profile of participants*

Approximately one-third of the participants worked in the primary sector. Of these, eight were classroom teachers, two worked as Home / School Community Liaison Co-ordinators and one was a non-teaching principal. Of the 19 second-level participants, 17 were classroom teachers, while two were employed on curriculum development projects.

- *Commitment and Attendance*

There were 12 sessions during the period from September 1997 to June 1998, involving approximately 40 hours. The average teacher attendance was 21.

Multiple intelligences as representations of understanding

By June 1997, many of the teachers, while expressing enthusiasm for advancing their innovations, acknowledged uncertainty about what the longer-term 'ends' of the Project should be. There was a sense that the activities contained within the strategies needed a more focused framework. This seemed to bear out what some commentators – Gardner among them – had said about the danger of using the strategies as mere activities that did not result in any deeper learning. In other words, use of MI strategies could not be an end in itself.

During Phase II(b) of the MI Project at UCC, the teachers were introduced to the elements of the Teaching for Understanding (TfU) framework as elaborated in *The Project Zero Classroom: New Approaches to Thinking and Understanding* (Eds. Veenema, Hetland and Chalfen, 1997). The emphasis on teaching for understanding within the structure of the TfU framework – with which members of the Project team had become familiar at the MI/ND Symposia at Harvard over the previous two summers – provided a natural 'next step' in the Project's evolution. It complemented and extended the work the teachers had already been doing, urging them to move to a deeper and more complex analysis and application of MI theory. In that application, the intention was that the intelligences would become 'servants' of the teacher and learner, the *means* through which access could be gained into topics and concepts, and the *symbol systems* which would enable more diverse representations of understanding.

In this phase, while the principal focus was on the pursuit of understanding as an educational goal, the sophisticated nature of the Teaching for Understanding framework enabled it to be utilised as a comprehensive curriculum planning approach. The existence of understanding as a long-standing if unexploited curriculum goal in Irish curriculum documents has been noted earlier. In implementing the TfU framework, the teachers were urged, therefore, to look again at the national curriculum guidelines for the subject they were teaching, to see where the TfU framework 'fitted' those guidelines. Another intention in urging teachers to seek this compatibility was that dependence on textbooks as 'curriculum definers' or as 'course planners' might be reduced.

Assessment in the Teaching for Understanding framework

Further development of assessment strategies featured prominently among teachers' concerns for Phase II(b) of the Project. Underlying this concern was their desire to dilute the dominant influence of the terminal examinations on their teaching. A wish to broaden the range of modes and techniques of assessment was commonly expressed, and the potential of portfolios as one of these tools was highlighted. At the end of Phase II(a), some teachers expressed the view that while they had learned from presentations on assessment, and "believed in the theory", they did not feel comfortable about undertaking new forms of assessment, either in terms of actual techniques or the confidence to use them. Because the time and resources available to the Project did not allow the kind of intensive 'training' that would be required here, support for the teachers consisted of the provision of suggestions and guidelines, leaving the details of use to each person's judgement. The extent of teachers' efforts at changing assessment practice is detailed below.

In Phase II(b), the workshops / seminars continued as in Phase II(a), with other parallel activities. For example, a Public Seminar on Assessment "with particular reference to Portfolio Assessment" was held in November 1997; in the following month, the teachers were provided with an opportunity to explore the use of a reflective journal in their own work, and as a practice for students. Resource materials and literature continued to be provided.

Purpose of the Project's Focus Groups

A further dimension in Phase II(b) was the formation of the three *Focus Groups*. The original Project objectives included an examination of "the application of the theory of Multiple Intelligences to assessment, initially in the case of Civic, Social and Political Education (CSPE) in Irish post-primary schools, and then in the case of a broader range of subjects at primary and post-primary levels." Subsequent phases of the Project examined the application of the theory to curriculum and assessment in the case of CSPE and the Transition Year Programme (TYP), and at the primary/second-level transition stage (Phase II Proposal, May 1996). Thus it was around these three areas of schooling that the Focus Groups were formed.

The Groups were an important feature of the Project – they facilitated a more focused exploration of the issues around curriculum and assessment as they arose in the context of an MI / TfU approach. The largest group was the primary / second-level one, and its discussions focused attention on fundamental questions surrounding assessment purposes and practices in Irish schools. The other two Focus Groups had a somewhat different emphasis, as their particular interest was in the use of ongoing

assessment and alternative forms of assessment (in the Transition Year and in Civic, Social and Political Education).

Issues discussed by all three groups included current assessment practice in each of the three contexts. This included the purposes of assessment, audience, the nature of recording of assessments, transfer of assessment information, and the use to which the information was put. The possible contribution of MI theory and the TfU framework were also considered. Considerable discussion centred around the criteria employed for assessment. The Focus Groups met on four occasions and engaged in valuable dialogue.

Introducing Teaching for Understanding to the teachers

The TfU framework was presented to the teachers at workshops on 12 / 13 September 1997. The groundwork was laid as follows: (i) an overview of the Project to date was given; the progression from Phase II(a) was explained and it was stressed that the proposed focus on understanding built upon the earlier work with multiple intelligences, and would require that MI practice be integrated into it.

- The Project Team made presentations on
  the origins of MI theory using the writings and comments of Howard Gardner to show the progression in Gardner's thinking on intelligence, teaching, learning, understanding and assessment;
- the concept of 'Entry Points' and its possible application to lesson planning – stress was laid on the differences as well as the links between the 'Entry Points' and the 'MI strategies' as utilised by the teachers in the earlier Phase of the Project;
- theconcept of 'understanding' itself, and the way in which it is defined in terms of learning in schools, again utilising Gardner's writings and the insights of researchers on Project Zero – this presentation also laid the groundwork for the sessions on *Teaching for Understanding* on the following day.

This session also included a presentation of the TfU framework, and the different elements of the approach as they are integrated into the TfU graphic organiser, featured in the then recently-published *The Project Zero Classroom: New Approaches to Thinking and Understanding.* Each participant was provided with a copy of this book. This was followed by sample illustrations of how the organiser might be used in lesson-planning, and how the various elements could be considered together in its use.

The teachers were then asked to participate in a workshop, in which they could begin the process of planning a unit of some six to eight lessons, utilising the TfU framework.

They formed small groups, generally composed of those working within similar or related subject areas.

Initial feedback

The teachers seemed pleased with their initial encounter with the TfU framework, although they commented on the challenge of working with what appeared quite a complex process. Observation of the initial sessions of the working groups showed some uncertainty about the way the framework should be implemented. The undoubted complexity of the graphic organiser, and the perception among some that the multiple intelligences had been 'left behind' added to the difficulty. While the integration of the multiple intelligences within the TfU framework was stressed, perhaps the shift of emphasis was seen by some as too sudden a change of direction.

Nevertheless, the teachers commented favourably on the manner in which the template brought all elements of the planning process together, obliging them to draw all the threads along in an integrated way. Some said that this was the first organiser they had come across that enabled planning to be carried out in a coherent and systematic way.

There were some difficulties with the planning given that teachers taught different subjects, and were not from the same school. Many indicated that while they found the planning process useful, they would need to structure it more specifically for their own subjects and classes. It was decided to hold a further planning workshop later that month, following which the teachers were asked to implement the framework – to whatever degree they could, and in whatever subject or subjects they wished. (On that evening, the introductory session was repeated in an abridged form for those who had been unable to attend on September 12 / 13, and the plenary group then joined in to continue the process of planning the implementation of the framework).

Working with Teaching for Understanding: reports from the classroom

Over the following months, teachers on the Project engaged with the ideas and practices of TfU to varying degrees. Reports from twelve of the teachers constitute the data for this Phase – some of these submitted lesson data, along with the graphic organiser as well as reflections on their initial efforts with TfU. The experiences of others appeared as articles in the Project newsletter, the *MI Bulletin*, while others again made presentations to the plenary group at Project workshops. In addition, comments made by individual teachers at discussion sessions are a further source of data.

It may be useful to look firstly at how the teachers utilised the framework, before evaluating the relative success or impact of the work undertaken. This will be followed by an outline of the constraints and possibilities of TfU implementation from the teachers' perspective. Since the framework consists of four elements as outlined earlier, it may be a productive approach to this analysis to consider how the teachers fared in relation to these. The elements – suggested as the answers to four fundamental questions about what and how we teach and assess – are as follows:

1. *What shall we teach?* – Select promising ***Generative Topics***
2. *What is worth understanding?* – Specify publicly your ***Understanding Goals***
3. *How shall we teach for understanding?* – Structure ***Performances of Understanding***
4. *How can students and teachers know what students understand and how students can develop deeper understanding?* – Through ***Ongoing Assessment***

Selecting Generative Topics

Examples of the Generative Topics selected by the teachers include:

- Social, Environmental and Scientific Education (Sixth Class) – *Our County*
- Cross-curricular – History / SPHE / RE (Sixth Class) – *Conflict*
- Business Studies (First Year) – *Making Money Work*
- French (Transition Year) – *La Cuisine Francaise*
- English (Transition Year) – *The Language of Shakespeare*
- Chemistry (Transition Year) – *Acid Reactions*

In giving reasons for selecting these as topics, the teachers made reference to personal judgements, to their interpretation of TfU in the literature, and to official curriculum guidelines:

> This topic – *Our County* – was chosen because I believe, as the Primary School Curriculum. . states: “The locality is the natural laboratory where many geographical principles can be seen in operation and from which they can be explained in a tangible way”. I began by reading the Teacher’s Handbook, which I hadn’t referred to for years in any great detail (*MI Bulletin* 4, p.5)

This teacher goes on to quote from *The Project Zero Classroom* which suggests that criteria for selection of the Generative Topics would be that they are "important, fascinating to students and teachers, accessible through a variety of resources and entry points, and informative in considering other topics". The teacher comments:

> I felt that the Generative Topic 'Our County' fulfilled all those criteria. I discarded the scheme I had initially prepared and planned to focus my year's work on this topic . . . Also as Geography and the acquisition of geographical knowledge is in the first place the result of *observation* and *investigation*, I thought I could encompass many of the MI techniques and practices (ibid., p.5; italics in original)

The teacher who selected *La Cuisine Francaise* also restructured her teaching plan, and comments on her choice of Generative Topic:

> My aim with the module was to acquaint my Transition Years with the cultural and social complexion of French-speaking countries, thereby raising their awareness and understanding of cultural and social diversity. This is in line with the Department of Education French Syllabus Guidelines for the Leaving Certificate (*MI Bulletin* 3: 7)

The teacher of Sixth Class who selected 'conflict' as her Generative Topic had a more immediate and personal motivation for that choice

> I picked the topic because there is a lot of conflict in my own class. I thought maybe we can get in there and say why did this happen and what can we do about it (Workshop transcript, 27 April 1998).

A quote from *The Project Zero Classroom* served as a guide for the teacher of English who chose to work with 'the language of Shakespeare' – the quote defined understanding as "being able to do a variety of thought-demanding things with a topic". The teacher described this as "quite challenging". She said that she wanted to increase the appreciation of language among Transition Year students:

> The whole idea was to give them some sense of the excitement of language, the variety that was there, to tie in with Transition Year aspirations, to build up their self-esteem, to have fun and to encourage the creative side. . . The idea was to anchor it within the language of Shakespeare. There are tremendous stories there, and Shakespeare has come alive through film with Romeo and Juliet (Workshop transcripts, 10 November 1997; 27 April 1998)

The science teacher decided to work on the topic of 'acid reactions' in order to help Transition Year students understand the relevance of chemistry in their lives. She took particular account of the guidelines for Transition Year chemistry which proposed as its theme "chemistry is relevant in everyday life". It was also important, she felt, that

students see that learning in the Transition Year that was not assessed by examinations could be relevant, challenging and enjoyable.

The teacher of Business Studies also sought this relevance – though with a First Year class – and had to work with the fact that many of the students had a low reading age. The Generative Topic 'Making Money Work' was chosen from within the Business Studies syllabus, and dealt with everyday personal money management and household budgeting.

In sum, the choosing of Generative Topics reflected the range of options, constraints and influences that face teachers when planning curriculum content and its delivery. It is relevant too that the examples given relate to 'non-examination' contexts (Sixth Class, First Years and Transition Years). The freedom from a formal summative assessment certainly allowed the teachers a greater degree of flexibility in their planning, but they consequently felt obliged to examine more closely the relevance and value of the topics being selected, and the desired learning outcomes.

Understanding Goals

Specifying Understanding Goals in the TfU framework involves making an explicit statement of 'what is worth understanding' within the Generative Topic selected. These Understanding Goals can be 'Overarching Goals' – also termed 'Throughlines' – which refer to the broad understandings students should develop over an extended period of a term or a year. On the other hand, 'Unit-long Understanding Goals' are more specific statements of what students will understand after the completion of a unit (can be any number of lessons, but usually 4-8 periods).

Examples of the *Overarching Understanding Goals* set for the Generative Topics above include:

Conflict – 'Pupils will understand how divisions occur in society'

Acid Reactions – 'Students will understand that chemistry is all around us'

La Cuisine Francaise – 'Students' awareness of cultural, social and political diversity will be raised'

Our County – 'Pupils will understand how natural features influence man and how man influences them'

Language of Shakespeare – 'Students will appreciate the diversity of expression in language'

The unit-long Understanding Goals were intentionally more specific. Some examples were:

Conflict – 'Students will understand the importance of respect in resolving conflict'

Acid Reactions – 'Students will understand the everyday applications of the reactions of acids with metals'
La Cuisine Francaise – 'Students will learn how to read a French recipe and follow its instructions'
Our County – 'Students will understand the relationship between the local physical environnment and economic activity'
Language of Shakespeare – 'Students will understand how language can be used to persuade'

Teachers acknowledged that defining the understanding goals was a challenging process, but a valuable and productive one. More specific goals were more difficult to set down, as they obliged a searching focus on the material, and an identification of important content. Teachers commented favourably on the manner in which the framework linked the understanding goals with the other elements - the goals were the reference-point for all the work of the teacher and the students in the unit.

Performances of Understanding
This proved to be a challenging element of the TfU framework. Because the 'performance of understanding' required the student to both *develop* and *demonstrate* understanding of one or more understanding goals, teachers sometimes found it difficult to devise what would be valid 'performances'. These performances were intended to be activities that enabled students to apply what they understood - bringing together "in a meaningful way the different components of learning experienced through an active and engaged approach" (*MI Bulletin,* 3: 6). Some examples devised by the teachers were:

Conflict – pupils roleplay resolution of disputes
Acid Reactions – students investigated the chemistry of acid rain and its implications
La Cuisine Francaise – students prepared and cooked a Quiche Lorraine
Our County – pupils recorded features of the weather to show patterns
Language of Shakespeare – students compiled a 'parent alert' – elements of deception that teenagers might use to get their way – these were derived from a study of a passage in Macbeth
Making Money Work – students acted out scenes for an advice video on household budgeting

It would appear that the more practical the activity was, the easier it was to determine that it was a good performance of understanding. The Sixth Class 'Our County' teacher asked her students – "How would you teach this to Fifth Class? How will you get them to understand it?" – she believed this was a performance of understanding because

"one of the ways you show you understand something is by being able to teach it to someone else". However, dealing with a more reflective subject-matter, the teacher of the 'conflict' unit commented that it proved difficult to bring her pupils from context-specific understandings towards generalised understanding – to get them "to tune in to the larger reality". Yet one of the keys to effective performances of understanding is this pursuit of depth in the exercise – asking students to make connections to other learning, to explain why they did a particular thing in a particular way, and not in another way, and to try to apply what they had learned to new situations and problems. All of the performances above have in common that they required students to go beyond the facts and to follow through the implications or possible applications of their knowledge. In such activities, understanding could be both demonstrated and developed.

Ongoing Assessment

Many teachers on the Project acknowledged that this element of the framework was the most challenging for them. Indeed, throughout the Project, questions of assessment proved the most difficult to resolve. Recurrent over the period were statements from the teachers expressing on the one hand their enthusiasm for the broadening of assessment approaches to capture a more holistic - and cumulative - picture of a student's learning. On the other hand, they referred to the feeling that they lacked the expertise to do this. In addition, they wondered how they could positively influence the existing system within which they had the professional responsibility to prepare students for high-stakes assessment in the examinations.

One of the consequences of this was that teachers viewed the portfolio – which the Project proposed as a potentially valuable assessment approach – as a technique more likely to serve as an aid to learning rather than as an assessment tool. In the classes where summative assessments were not an immediate prospect, a number of teachers opted to use a portfolio as a means of recording student work, as well as of demonstrating and celebrating student achievements. Some teachers also got their students to use a reflective journal, through which the students would consider their own work and the ways in which they learned best.

On the value of ongoing assessment, the teachers commented:

> The development of self-esteem and ownership of one's own learning were fostered in the continuous assessment which took place during the entire work process (Transition Year English teacher; *MI Bulletin*, 5: 7)

> . . the emphasis on ongoing assessment is very helpful especially in a year when there are many distractions for students, no textbooks, little formal homework and few conventional tests and exams (Transition Year Chemistry teacher; *MI Bulletin,* 3: 11)

The following are some examples of where portfolios were employed:

Study of 'Our County' (Sixth Class)
Cross-curricular portfolio (Sixth Class)
Preparation of students for Confirmation (Sixth Class)
Using a portfolio to show progression in writing skills (First Year)
Illustrating the experience of work placement (Transition Year)
Students recording and applying their learning about language use (Transition Year)
Illustrating 'chemistry all around us' (Transition Year)

On the particular virtues of portfolios, the teachers said:

> At this time of the year, you tend to lose students' interest, but with the portfolios that didn't happen this year – [we have] a portfolio evening coming up for parents. We haven't had enough time to be selective about the portfolio contents, but it has kept them focused. I certainly think that the portfolio allowed them to show their strengths, whether that was in artwork, organising materials, presentation or whatever (Transition Year Chemistry teacher; Workshop Transcript, 25 May 1998).

> Reflection and observation played a huge part – when they come in on a Monday, they take out their portfolios and I'm just there to watch what's happening. There is no aggression, no conflict in the class. In the beginning of the year, there were one or two who were very shy about others looking at their work, but they'll go to anybody now. Their social skills in that area have improved tremendously and their willingness to be vulnerable really, when they are asking someone else to look at their work (1st Year English teacher on writing portfolio; Workshop Transcript, 27 April 1998).

> The preparation at the core [of Confirmation] is for me *experiential* and I think the portfolio idea could express that reality better than present modes of assessment (Teacher of Sixth Class RE; *MI Bulletin*, 4: 11).

> In the portfolio, I wanted to celebrate children's accomplishments and interests - I told the children to think about this question "what do I

> want the portfolio to show about me and my learning?" (Teacher of Sixth Class; Cross-curricular portfolio, Workshop Transcript, 2 March 1998)

An observer at the 27 April session commented on the First Year teacher's approach to writing:

> There's a very important message in what you're doing. A lot of teachers go in to less able students and give up on them. When you show children you're prepared to put work into them like you're obviously doing, you're valuing them, you're giving them a structure (Workshop Transcript, 27 April 1998).

A number of the teachers said that they gave their students freedom to decide what would go into their portfolio. The Sixth Class teacher who worked with the 'Our County' topic provided a substantial list of the kinds of items her children included in it. The possibility of saving work in the portfolio seemed to give it a new value:

> The children love the process – they want to keep everything because they value these things. They will make a selection at the end of the year (Workshop Transcript, 2 March 1998).

> Choices were given and made by students for portfolio submissions also. These included: poster/ costume design; interview with characters or witnesses (written or recorded); media coverage; reports of trial; diary of Friar Laurence. A classroom display of all submissions celebrated and validated the learning (Transition Year English teacher; *MI Bulletin*, 5: 7)

The Transition Year teacher who used portfolios for recording his students' work placement told of his difficulties with the portfolio:

> The folder/ portfolio primarily marked only achievements and many were accompanied by certification. There is need now for evidence and data suggesting a "moving towards" attainment, not just completion, achievement and certification. A system will need to be put in place which will help to identify individual progress. How for instance does one assess growth in attitudes, motivations, social conduct and values? I am sure that there are ways but are they time-consuming, are they accessible, are they easy to evaluate? (*MI Bulletin*, 3: 9)

As the teacher notes, this was an example of a portfolio being used principally as a display of certified achievements. It differs from most other examples on the Project which aimed to show the range of student work in progress, and largely allowed students to decide the content. The different approaches teachers adopted towards the use of portfolios demonstrate the potentially diverse and flexible interpretations of the portfolio concept.

A public seminar on assessment, "with particular reference to portfolio assessment" was organised by the Project team in November 1997. The aim of the Seminar was the sharing of views and interpretations of portfolio practices, and representatives of a wide range of agencies and groups with an interest in assessment were invited to contribute. There was palpable enthusiasm for the potential use of portfolios in different areas of the educational system, and those who were setting out on the "portfolio road" were particularly interested to hear accounts from those who were already engaged in the practice.

A representative of the National Council for Vocational Awards (NCVA) explained how their purpose in using the portfolio was to give the student a summative grade based on the attainment of certain criteria which had been set out. Noting that the portfolio contained a broad range of student work, she stressed the importance of matching the form of assessment with the desired learning outcome. In other words, the ability to perform a task was assessed by requiring the student to perform that task, rather than just write about it.

> This form of assessment [portfolios] values individuals who do not show their potential through traditional modes of assessment, where many people cannot achieve well because their skills, talents and behaviours are not capturable on paper in two hours in June (Seminar Transcript, 24 November 1997)

Responding to concerns expressed by teachers about the amount of time that would have to be invested in alternative forms of assessment, a researcher in the area of portfolio work in the US stressed that in his experience, the time problem became less as participants gained experience in the portfolio process.

> In the first year, teachers are unwilling to let anything go, and new approaches are built on top of existing practices. Time becomes less of a problem when teachers and students are more familiar with new approaches, and when a model of learning as partnership is developed (Seminar Transcript, 24 November 1997)

At the same seminar, a representative of the National Council for Curriculum and Assessment (NCCA) referred to the "huge interest" in innovative assessment approaches among course committees at Leaving Certificate level. However, he stressed that there was "a lot of ground to be won" to ensure that the more process-based assessment components are seen to be as reliable and verifiable in terms of content as the traditional terminal examination.

The reflective journal

The concept of the 'reflective journal' was re-introduced to the teachers at a Project session midway through Phase II(b). It was suggested that it had value for teachers (as a tool for professional development), and for students (as an aid to learning). A minority of the teachers reported that they adopted the practice and found it useful. Most, however, wished to keep it as a personal and private process.

Some teachers also encouraged their students to engage in the practice of reflection, usually as a feature of portfolio work. The Transition Year English teacher (quoted above) commented on the value of students keeping a reflective journal:

> A very important aspect of the entire learning process was the use of a Reflective Journal. Each day, students logged their own responses and observations of what was happening for them. For example, the very reluctant one who thought drama was 'stupid' could quietly recognise and admit a change of attitude – without losing face! (Transition Year English teacher; *MI Bulletin*, 5: 7)

The Sixth Class teacher of RE – who built the journalling into his portfolio preparation of Sixth Class boys for Confirmation - stressed the importance of student ownership of the journal:

> It is a rule of the journal that it will not be subject to correction or criticism. The students are free to share or not to share all or some of their reflections or insights with others. The student controls access to his reflective journal (*MI Bulletin*, 4: 10)

Fortunately, his students were willing to share their journals - their teacher was also willing - and some of the entries therein are of interest:

> I have been learning a lot about myself and my parish and I have learned more about the way I think.
> I really like the project [on Confirmation]. I think you get to know what you can do even if you never knew it. It's like exploring yourself.

> I am really pleased with the project so far but we spend too much time talking about the project rather than doing it. You can't write about something you didn't do.
> I have said what I think and nobody can change what I think but me.
> I think the project is becoming too religious.

This selection of comments from 12-year-olds illustrates that when their comments are not subject to teacher correction or intervention, they will be frank and honest; their capacity for being reflective is also well represented.

Another teacher also found specific benefit in *unwritten* reflection for her students in the topic they were studying:

> We have a reflection time every day, we've been working a lot on how they see themselves – this has helped a lot. For example, in the topic of conflict, one of them said "if you don't feel good about yourself, you'll fight with everybody" (Sixth Class teacher; Workshop Transcript, 27 April 1998)

Overview of responses to the TfU framework

Even though understanding has always been a goal in teaching and learning, many of the Project's teachers acknowledged that it was one they had not always consciously pursued.

> I have always set my faith in standardised tests - they have been a kind of security for me. But now I realise that 'the legs are not secure on the table'. I believed that if you teach something often enough, they will eventually catch on. Now I see that I must approach it from the other end as it were, from the aim of achieving understanding (Sixth Class teacher; Workshop Transcript, 25 May 1998).

> I've always justified myself by saying "I've covered the course – they either know it or they don't". With the emphasis on pursuing understanding, I can't do that anymore. What we've done here has turned my idea of teaching on its head (Transition Year teacher; Workshop Transcript, 25 May 1998).

A teacher of Chemistry claimed that MI/ TfU enabled him to teach concepts more easily:

> I saw kids enjoying themselves as much at understanding science as they would playing a football game. What we have done here is to shift the

> goalposts; we've changed the rules of the game and let more people in (Workshop Transcript, 25 May 1998).

Teachers also said that they now looked more critically at what elements of understanding there were in their teaching, and realised that much of the time, students did not understand as much as teachers thought they did.

In the practical implementation of the TfU framework, most teachers initially found the prospect of implementing all the elements daunting. One teacher described her initial feelings as "ones of trepidation combined with curiosity". In the Harvard *Teaching for Understanding* Project, rather than try to manage the whole framework, teachers tended to make use of whichever individual elements appealed to them and gradually brought them together. Joan Soble, a teacher on that Project, described how she had "great romances" with individual elements of the framework, until she came to see that each part worked best in conjunction with the other elements (Wiske, 1998: 92).

In the present project, some teachers did try to work the combination of elements of the framework, but found this difficult. Some selected the element of *Ongoing Assessment*, in the form of portfolio assessment, as their focus. Selecting the Generative Topics and setting the Understanding Goals seemed to be the less difficult elements of the TfU framework. In the Education Department at UCC, teachers on the Higher Diploma in Curriculum Studies (Civic, Social and Political Education) who worked with the TfU framework experienced similar difficulties, especially with *Performances of Understanding* and *Ongoing Assessment*. The Director of that course comments:

> Initially, I think we were all too caught up in the machinations of the TfU Graphic Organiser. Ironically, we did not understand it because we did not own it in our own situations. Some teachers, including myself, applied it too literally, others found the terminology difficult to follow. Some felt it was too abstract (*MI Bulletin*, 5: 6).

In hindsight, one feels that teachers on the MI Project should have been encouraged to experiment more with the individual elements of the framework as represented on the Graphic Organiser. If the teachers had been allowed greater flexibility in utilisation and interpretation, it might well have reduced the sense of awe that many participants experienced when they felt that all elements had to be used simultaneously.

And yet the general feedback from teachers who used the framework was that it provided a coherent structure, if a challenging one, for their curriculum planning. The

Project's Director underlined the extent of that challenge, and the potential of the TfU framework:

> For many of [the teachers] it has necessitated a radical rethink of their approach to teaching, learning and assessment. The TfU framework addresses many key elements of curriculum planning and classroom practice.
>
> . . . it seems to me that the TfU framework . . . provides an integrated approach to curriculum planning which incorporates the various components of the understanding process and provides an opportunity to bring together the best of the so-called traditional and progressive approaches to curriculum planning *(MI Bulletin*, 4: 11)

Issues arising in project presentations and discussions

Immediate involvement of the teachers in classroom work at the beginning of the action research phase resulted in an organic emergence of issues. Initial concerns related to teaching successes and failures in the classroom; a parallel consideration of assessment questions was soon established, and from there, the teachers were asking increasingly reflective questions. Some questions concerned issues of personal and professional development; others, taking a global view of the schooling system, considered what it was within it that helped or hindered innovation, change or improvement in their own schools or classrooms.

The issues that emerged related (i) to classroom practice, and issues of teaching and learning; (ii) to school- and system-wide organisational questions

Changing concepts of teaching and learning

"Comfort zones"

From the outset of Phase II, teachers referred to the difficulty of moving out of their "comfort zones", and subsequently to the same difficulties becoming evident for students. Teachers began to recognise that they felt comfortable using certain instructional strategies, and that the effort needed to move away from these was considerable. The recognition by the teachers of differing intelligence profiles in themselves enabled them to see in a new light a similar variety of profiles in students, with all the implications this had for the way students might best learn. There was also considerable debate about what constituted genuine MI teaching – in particular, what kinds of teaching strategies would 'activate' or 'develop' the various intelligences? Should one teach to enhance the intelligences, or should the intelligences be used as learning 'aids', their development being incidental to their utilisation for other learning

ends? Or to what degree could a teacher individualise instruction to take account of the range of intelligence 'profiles' in a class?

When Phase II(b) began, the attention of the teachers was refocused on to classroom issues as they considered how they might interpret the elements of the Teaching for Understanding (TfU) framework, and in particular, how MI theory and Portfolio Assessment could enhance TfU. The pattern of Phase II(a) was repeated as they improved their understanding of the TfU Framework, i.e. they moved towards a consideration of the underlying questions and issues. One (primary) teacher referred to the "discomfort" of having to teach for understanding, about having "the old certainties" questioned, and the old methodologies shown to be inadequate. He said he had "made MI strategies [his] new comfort zone", but now felt uncomfortable about this move into "new territory" [i.e. Teaching for Understanding].

Other teachers too expressed this sense of leaving behind what had become the familiar terminology of multiple intelligences. Some referred to the security they felt within the MI way of thinking and talking about their practice and about students' potential. It took some time before they came to use the TfU terminology. Later in the year, a (second-level) teacher was to say how she no longer thought much about MI strategies, because she now used them in an everyday way - they had become part of her teaching. She was perhaps expressing a sense of being freed up from over-concern about details of methodology and having more time to consider wider learning issues. This was an objective of the TfU framework, i.e., to use MI strategies as one means of pursuing understanding goals. An observer at one session remarked that she saw MI strategies as "a means to achieve certain ends . . . without necessarily being over-conscious about them" (Workshop transcript, 10 November 1997).

Not everyone had reached that 'point of comfort', however. The complexity of the framework, with its several interlocking elements continued to challenge some teachers right up to the conclusion of this Phase, although as was described earlier, many teachers made their own of the framework, utilising the elements with which they felt more comfortable. It became clear that this complexity required considerably more time for exploration and engagement than the Project allowed. However, the brevity of the school year and the need to do the main classroom 'experimentation' early in that year obliged an early start to this part of the Project's work.

The initial encounters of the teachers with the TfU framework in Phase II(b) did not produce the same element of excitement as their first exposure to MI strategies had done. The complex and challenging nature of the framework was evident from the

outset, in contrast with MI strategies whose complexity took some time to become apparent. Now the challenge was to teach for understanding, but the nature of 'understanding' itself would take time to explore and understand. Teachers found truth in the advice contained within *The Project Zero Classroom*, namely that the framework would begin to make sense only when it was put into action.

Changes reported by the teachers

Yet the Project encouraged movement among the teachers in terms of methodology, and in the way they thought about teaching and learning. Responding to a questionnaire survey some months before the end of the action research stage, teachers were asked what they had gained from the Project to that point:

> An appreciation of my own intelligences and an awareness of the child's multiple intelligences (Primary)
> A new perspective on possibilities for enhancing my teaching (Primary)
> The confidence to stay out of my safety zone for longer periods (Second-level)
> Support for my own style of teaching which dares to go beyond the "technical model" (Second-level)
> Impetus to try new ways (Second-level)
> A shift of emphasis from teaching to learning and understanding (Second-level)

These (and other) responses to this question show that the Project was perceived as having value for teachers in a range of dimensions. Firstly, these were at an *awareness* level: issues were raised about the nature and in particular about the diversity of intelligence; about how people learn, and about "how children think". At this personal level also there is reference to "understanding" that teachers have gained, "confidence" that they have developed, and "enlightenment". Coming through these responses also is evidence that the Project led teachers to question fundamental aspects of their teaching, not just the 'how' of it, but also the 'why'. One teacher refers to "a rethink about teaching"; others refer to a 'new perspective', 'new questioning', 'greater insight', and "a broad vision of what our society should consider as educationally valuable".

Secondly, it is noticeable how the Project, in effect, affirmed some teachers in their style of teaching, confirming their beliefs about what teaching should be. For one teacher, it gave the "confidence to pursue strategies which I have always had an instinct for, but which might have appeared unconventional"; for another, the "confidence to continue 'experimenting' in the classroom"; for yet another, the Project had given "a theory to underpin practice". One of the significant values of exposure to MI theory and Teaching

for Understanding for many of these teachers was in its validation of their instinctive feelings about teaching, an affirmation of their beliefs about learning and indeed about intelligence too.

Teachers on the Project appear to have gained confidence and strength from the dialogue in which they engaged. This is also evident in references to a renewed sense of purpose in one's teaching:

- I would have learned a lot but more importantly, I realise that there is so much more to learn.
- I would now approach my teaching and students' learning differently.
- A new perspective on possibilities for enhancing my teaching.
- I have developed a clearer and challenging understanding of how much more I can give and have returned to me in working with children through the different intelligences.
- Confirmed [my] desire for, and value in innovation for the students' benefit.
- I have learned and will hopefully continue to learn how to enrich pupils in my care

Finally, the 'nuts and bolts' of teaching are prominent in teachers' references

* New teaching strategies
* New planning skills
* A structure to improve my own teaching
* Sets of re-usable lesson plans
* A new method of teaching my subjects

These responses provide further evidence of the desire among teachers to improve their classroom practice, as well as enhancing their theoretical understandings. The frequency of reference to the interaction of theory and practice in the Project serves as a further caution against separating theory and practice in in-career development for teachers.

One year on . . .

Almost a year after the conclusion of the action research stage, the teachers were surveyed to determine the extent of the residual effects of MI theory and the TfU framework on their thinking and practice. The following responses are representative:

> Less constant influence but at least once a day I avail of TfU or MI approaches. The one I've yet to get my teeth into is portfolio work. (Primary)

> I miss my MI fix – a lot! I never really got a handle on TfU – MI practice and portfolio stuff are now part of my ''kitbag''. (Primary)
>
> I always believed in MI and the Project showed me how to incorporate it into my teaching. The TfU graphic organiser has made me rethink my whole approach to planning, and involving students in assessment is quite exciting and challenging. (Second-level)
>
> It has firmly consolidated the fact that knowledge is nothing without understanding. By understanding the student has achieved something. This results in improved self-esteem without reducing ''exam potential''. (Second-level)
>
> "Throughlines" have changed order of topics I now teach. My entry points are now more varied. MI techniques have changed the way I teach a topic. (Second-level)

In this survey, the teachers were also asked what kind of influence involvement in the Project had had on their thinking and on their practice. The responses, though small in number (n=20) are of interest: Over three-quarters of the respondents (n=16) said that the Project had influenced their *thinking*, fourteen of these categorising it as "a major influence". The remainder said it had confirmed what they already believed. Just over half the teachers who responded said that they had made "major changes" in their *practice* as a result of the Project, while just under half described their changes as "minor". Nearly three-quarters of the teachers said that they had "found it easier to change [their] thinking than to change [their] practice". These responses reflect a pattern probably common to many curriculum development projects, i.e. that it is easier to subscribe to the philosophy of an innovation than to carry it through into classroom practice. This is not to take in any way from the teachers' efforts, merely to acknowledge the reality that the implementation of classroom change is subject to many constraints, no matter how committed the teacher is to its spirit.

Coverage vs. Depth

Among the constraints which teachers identified throughout the Project, was their concern about the coverage/ depth balance, and the implications this might have for students as they became increasingly oriented towards terminal examinations. The common feature of teachers' responses in this respect was that they subscribed to the ideals being pursued, but feared putting 'standards' at risk, especially when it came to examination preparation. The two underlying concerns were: (i) that the standards required by examinations, and the kinds of answering therein, would not be achieved

using MI/ TfU approaches, and (ii) that the amount of time required to treat topics in depth meant that full programmes and syllabi might not be completed within the year. These were the main reasons why teachers did not employ MI/ TfU approaches in examination year classes.

The aims of the Project did not include an evaluation of the outcomes of the use of MI/ TfU approaches with examination year classes, and although research findings in this regard from the US are encouraging, it is not yet possible to definitively answer this question in the Irish context. Encouragement can certainly be drawn from the successful reform of curriculum and assessment in some Irish programmes, notably the Leaving Certificate Applied (LCA) and the Leaving Certificate Vocational Programme (LCVP). Assessment of the work of students on the Link Modules of the LCVP is done through a written examination (40% of total marks), and an assessment of a portfolio of their coursework (60% of total marks). Although still in the early years of its establishment – the first cohort of students was assessed in 1996 – this approach to assessment is receiving a positive response from students and teachers (Fitzmaurice, 1998). The integrity of the process is supported by the National Council for Vocational Awards (NCVA) and the Department of Education and Science.

Writing about the LCA, O'Driscoll (1998) says that the 'Student Tasks' are "the most rewarding and tangible aspect of the learning programme":

> [The student task] is a practical activity which integrates the learning from a number of courses. Student tasks could take the form of making a product, carrying out an investigation, providing a service or organising an event. Its value to the students is the opportunity it gives to apply and use what they have learnt to activities of interest and relevance to themselves. (O'Driscoll, 1998: 76).

Commenting on the innovative approach to assessment built into the LCA, O'Driscoll stresses the fact that assessment of student learning is not based on one final examination only:

> Student achievement is marked by the accumulation of credits throughout the two years. This is a significant breakthrough in Irish education. It is the first time in a state certificate examination process that students have been able to accumulate credit and receive the feedback on their performance before they reach the end of the programme (Ibid., p.77).

This LCA programme, which includes many features of student learning and assessment that reflect MI and TfU thinking, is becoming a reality in Irish schools, and is proving that alternative approaches to teaching, learning and assessment can work in examination years. The difficulties and shortcomings of implementing such innovative approaches are not ignored by those working in the programme, but the overall reaction to programmes such as the LCA and the LCVP is positive and encouraging (O'Driscoll, 1998). On the other hand, where programme content remains broad, and assessments are largely of the formal, summative kind, requiring much reproduction of material in a linguistic form, the coverage/ depth issue will remain.

The question of maintaining standards was also raised on many occasions during the Project. The general perception of Irish education, it was noted, was of a system that set and achieved high standards. However, this was qualified by concerns expressed about the significant minority of students that failed within the system; about the narrowness of much learning in schools, albeit to a high standard, with a relative neglect of the creative arts, and of personal and interpersonal development, for instance; and about the perceived negative effects upon the processes of learning resulting from the scramble for points from terminal examinations to qualify for third-level studies. Teachers nevertheless felt that any changes in teaching, learning and assessment processes would be subject to scrutiny to ensure they did not compromise existing standards. It was generally agreed that reform of the assessment system would have to ensure that flexibility and rigour were balanced, and where new ways of learning were being evaluated, that their credibility could best be ensured through the pursuit of high standards.

Rethinking concepts of intelligence, ability, attainment and performance

Despite teachers' reservations and concerns, however, their indications of the residual effects of the Project's ideas on their thinking and practice suggest that there was significant change. It may be that the more significant effects were upon how teachers *thought about* their work and what they wanted to achieve; yet it seems that classroom practice had changed to some degree also. One teacher reported that "the ideas of the Project continue to have a good influence on my practice in weaker classes, not so much so in more academic classes". However, for the majority of teachers, it appears that these effects on thinking and on practice applied across the range of class years and ability ranges. In fact, how teachers thought about and talked about the learning differences among their students was possibly the most enduring effect of the Project.

These learning differences were central to the Project's consideration of a plurality of intelligences. Given the declared interest of the Project in the theory of multiple intelligences, and the self-selected composition of the participants, it was not necessary for the Project team to "sell" the concept of a plurality of intelligences to the teachers. In fact, it was this very point that attracted most if not all of the participants. However, the analysis and refining of what this plurality actually meant and implied for teaching and learning remained a core concern for the duration of the Project. The complexity of what appeared at first to be a simple theory became gradually apparent as it was applied to real learning contexts. The "challenges hidden in MI's appeal" (Naughton, 1998b) were revealed through practice, and previously unquestioned assumptions and beliefs about the nature of student ability and attainment became increasingly problematic. This process of engagement meant that Project debate on MI theory was constantly informed by classroom practice.

On several occasions, teachers discussed the issue of the everyday conception of intelligence, especially as it is defined in schooling. It was commonly observed that 'ability' in our schools is generally synonymous with 'intelligence'; that ability was almost always 'academic' ability, and intelligence usually linguistic or mathematical. Terms referring to student performance and ability were also the subject of reflection, especially in the context of reconceptualising intelligence itself - such terms included: 'bright', 'quick', 'clever', 'smart', 'able', 'slow', 'weak', 'remedial', 'dull', 'a good class', 'a poor class', 'a lower stream', and so on. The labelling, judgemental and differentiating effects of these terms were noted – why is a *bright* class called a *good* class? Why, to echo Gardner's concern, is a student who is accomplished in linguistic expression deemed 'intelligent', while one of notable artistic achievement is said to be 'talented'?

And while the constraining influences of these terms – and the conception from which they derive – were regularly and critically noted, the overwhelming dominance of that model of intelligence was equally apparent. One (primary) teacher, when asked (in the first questionnaire survey) what she expected the Project to achieve, replied that it should lead to greater awareness of the various intelligences, but she added,

> . . What do you do with that awareness? Foster it? Apply it to teaching methods? Where do you go from awareness? (Questionnaire 1, January 1998).

In this response she perhaps crystallised the general concern of the teachers that the understandings they had gained about intelligence were not ends in themselves, but should be put at the service of students and teachers for more effective teaching and

learning. The response may also have pointed to the fact that increasing one's awareness is an easier task than the subsequent application of that awareness to classroom teaching, particularly when faced with the dominance of constructs of intelligence as noted above.

Ability grouping

One aspect of schooling organisation that featured frequently in Project discussions was the question of "streaming", i.e. the organisation of students into ranked classes, where each class is composed of students of roughly similar academic ability. Roughly half the schools in which the Project's teachers taught streamed their classes, the remainder using some variation of mixed-ability groupings. At least one school had taken a policy decision to abandon streaming in favour of mixed-ability teaching - the teachers in that school expressed themselves very happy with the changes this brought in their school, although acknowledging that the changeover was a demanding one. Yet among the MI/ TfU Project teachers there was no clear division of opinion in favour of any one form of ability grouping – teachers had reservations about each arrangement. However, many teachers expressed major dissatisfaction with streaming, when it was the practice in their own schools.

A common criticism of streaming is that it contradicts the oft-stated commitment to the "education of the whole person", by ranking students according to just one or two dimensions of their achievements (Hargreaves, et al., 1996). This was consonant with the teachers' thinking and talk about multiple intelligences, where they regularly expressed their desire to counter the linguistic / mathematical bias in their work with students, and to value learning / understandings achieved and expressed through other intelligences. However, many teachers seemed unsure about the direct links between assessment, streaming and students' intelligences. Fundamental questions posed within the Project remained unanswered, e.g. is 'multiple intelligences teaching' compatible with streaming of students? Is MI/ TfU a distraction to academically successful students? Is it only in lower-stream classes that teachers feel free to try new teaching methods?

Most teachers seemed to work within the belief that a certain amount could be achieved through judicious use of MI approaches with any class, but that in the end, the written examinations were a more significant obstacle than an issue like streaming. What remain unexamined here are the links between the setting of second-level entrance assessment tests, the practice of streaming, and the presumed suitability of certain kinds of knowledge for students of differing learning strengths. At issue is the belief that maximisation of the examination performance of the highest-ability

students can be best achieved through homogenous ability grouping. However, Smyth's (1999) analysis - echoing the findings of Hannan and Boyle (1987) - points to the overall negative effects of streaming on students' academic performance (pp.52; 72-3), as well as on other indicators, such as student self-esteem and the drop-out level within the school (pp.95-6). Smyth also shows that allocation to a particular stream level can have serious implications for access to different levels of courses, especially at Junior Certificate level (pp.32-3). Thus, while the terminal examinations may be seen as the "villain of the piece", the organisational features which serve the examinations system must be considered as significant factors also.

How to assess in an 'intelligence-fair' way

This was one of the most difficult questions for the Project's participants. In engaging with it, they realised that while instruction *through* the intelligences – although personally challenging to most – could be planned and carried out with some satisfaction, the assessment of this learning was a much more difficult matter. Here, they came face-to-face with fundamental issues: can learning done through diverse intelligences be assessed by unidimensional means, such as pen-and-paper tests? How can assessment criteria be set which will command wide acceptance, yet be "intelligence-fair"? Where can teachers learn the techniques of assessment that respect the plurality of intelligences and yet measure learning done through them, and represented by them?

The Project team ensured that the question of assessment was kept to the fore at all times, and the common notion of assessment as something which could only take place after learning had been completed was challenged from the outset. Yet it is probably true to say that assessment practice was not greatly altered during the Project. In Phase II(a), teachers were keen to assess the effectiveness of their multiple intelligences teaching strategies, and did so mainly through traditional-type techniques. A (second-level) teacher of Irish said that through assessing his students by means of activities [equivalent to performances of understanding], he believed that the students were in the same order of ranked attainment as if he had used traditional assessment approaches. The concept of *ongoing assessment*, which was introduced in Phase II(b) as an element of the TfU framework, was considered to be a difficult change of practice, and a relatively low return of lesson data from this Phase prevents us from knowing the full extent to which the teachers actually attempted it.

It seems likely that the fundamental change in teachers' practice required to implement ongoing assessment is a long-term process, requiring substantial ongoing support. Yet the principles involved in ongoing assessment were enthusiastically

endorsed by the Project's participants - negative comments from the teachers largely concerned the difficulties of implementation. Similar things can be said about the idea of *performances of understanding,* a concept central to the Teaching for Understanding approach, and about *portfolio assessment*.

In the latter case, there was a great deal of enthusiasm for the idea, and some of the teachers attempted to use portfolios during the life of the Project. As with many features of the Project, teachers experimented with the portfolio side by side with their regular assessment practices, e.g. end-of-term and end-of-year tests. Nobody proposed that the portfolio would replace other assessments, rather was it seen as a valuable addition to the range of assessment modes and techniques available. In attempting innovation, the teachers were always conscious of their accountability. The baby was retained, as was most of the bathwater. It was also noteworthy that such experiments as the use of portfolios were attempted only within the non-examination classes, a context which allowed at least some room for experimentation.

Students' reactions to MI and TfU

Teachers reported largely positive reactions from their students to their use of MI / TfU approaches. Some teachers explicitly named the different intelligences for students and asked them to consider their own intelligence strengths. Others simply tried out new teaching approaches without naming intelligences. Therefore, some students' responses referred to their "smarts" or intelligences, while others were simply commenting upon the teaching and learning methods they had been experiencing. Comments emphasised the enjoyable nature of the learning activities, the general preference for groupwork, and the belief of the students that they had retained more of what they learned and had understood material better. Students were also aware of the greater time required for the approaches. Following are representative comments, both positive and negative:

> For history, when we made up the songs, it brought the famine to life and helped me to understand what people went through (Sixth Class student)
>
> I think it is enjoyable to learn history through songs, and geography through board games (Sixth Class student)
>
> I didn't think that I could make up a new way of learning geography until I tried it and I loved it (Sixth Class student)
>
> I loved making up songs, but I don't like working in groups (Sixth Class student)
>
> [I didn't like] working with an intelligence you don't understand (First Year student)

I love it. I'd want to start school again. But it takes much longer and we only have a small bit of time (Sixth Class student)
What I learn stays in (Sixth Class student)
"Body smart" was more interesting than sitting in a desk (First Year student)

While reaction from most students to MI/ TfU ideas was positive, some students were resistant to them if they believed their examination performance might be compromised. A number of teachers, at second-level especially, reported students asking explicitly "whether MI approaches would be useful for the exams". The need to market innovative approaches to parents was stressed by the teachers for similar reasons - some parents of academically successful children worried that any move away from narrow teaching and learning practices might disadvantage their children, who were succeeding with a traditional approach. Overall, there was a feeling that MI teaching would have to prove itself to be at least as effective in achieving good examination results if it was to be adopted more widely. The same concern arose with a Teaching for Understanding approach - how can priority be given to understanding, when there is so much material to be covered, and when most examinations are perceived to reward recall rather than demonstration of depth of understanding.

Factors inhibitory to the implementation of MI/ TfU approaches

Concerns about examination performance

The fears of students, their parents and their teachers regarding the effects of any innovations upon examination performance was one of the factors reported by teachers as inhibiting any substantial utilisation of such approaches. As mentioned above, any deviation from a straight-line pursuit of examination "points" seemed to cause unease among both students and parents. Teachers talked of parents requesting particular teachers for their children as they had had 'high-points' results from their classes in previous years. Students became concerned if a teacher of the same subject to another class had given more pages of 'study notes' than their teacher had given. If teachers became aware of attitudes of this kind in their school, they were unlikely to lightly undertake any kind of 'experimental' teaching.

Primary teachers spoke strongly at many points during the Project about the negative effects upon their students of the entrance assessments set by second-level schools in the Cork area. One teacher of Sixth Class boys explained that most of his pupils could not become involved in the portfolio work undertaken with some other students because they were "scurrying like rats for the line". Another referred to three cases of ulcers diagnosed recently among pupils of his Sixth Class – he claimed there were a few

cases each year in advance of the local second-level school's entrance assessment tests. Several teachers said that they would be unable to attempt MI approaches until after the assessments. One said that he "could not even think about trying out MI" with his Sixth Class until these assessments were completed [usually around the end of March]. It was commonly reported that the Sixth Class programme was dominated by the teaching of Irish, English and mathematics – the three subjects usually tested in the entrance assessments. It was clear that the pressures resulting from these assessments had shut down the opportunities for the use of MI/ TfU approaches with upper-primary classes in many schools, as teachers had to "teach to the test". Ironically the terminal assessments at second level constituted the reason advanced by second-level teachers for their restricted use of the same approaches.

A consistent finding on the Project was that teachers reported predominantly positive responses from "lower-stream" classes to their MI/ TfU teaching, leading some of the teachers concerned to conclude that perhaps these methodologies were more suitable for, or more effective with "less academic" students. Other teachers expressed a strong opinion that the worth of these approaches could not be evaluated with higher achievers because there was very little opportunity to implement them, due to examination pressures. Some commented that what was good for some must be good for all:

> There will be ongoing conflict between traditional assessment approaches and innovative ones. . . But I have long felt that what are considered to be good ideas in alternative programmes are also surely good for mainstream students (Second-level teacher; Workshop Transcript, 25 May 1998)

> The kaleidoscope of programmes through which the ideas of portfolio assessment are entering into mainstream makes it difficult to see how any system can resist it forever (Observer at Project Seminar on Portfolio Assessment, 24 November 1997)

There was also evidence of concern that innovative approaches to teaching and assessment might be seen as relevant to alternative programmes only, thus marginalising their potential within the system.

The implications of MI /TfU for the way schools organise learning

Teachers' concerns with the detail of classroom teaching and learning expanded relatively quickly to encompass the "bigger questions". Obstacles to the wider application of MI practice soon became evident. Some involved personal evaluation,

e.g. Why do I teach the way I do? Why do I fail to reach some students? How can I venture into new ways of instruction? What particular difficulties arise in the case of my teaching subject?.

More frequently however, the issues related to the organisation of schooling e.g. class allocation policies such as streaming or mixed ability, timetabling constraints, relationships between teachers and students, and the traditional values and overall culture of the school. Other questions concerned curriculum and assessment issues e.g. how can the curriculum more closely meet students' needs and interests? Where can I reduce coverage in seeking to promote depth of understanding? What can be done to reduce the stranglehold of the terminal examinations on the life of schools?. Further questions arose about the overall system e.g. What can be done to lessen the discontinuity between the first and second level of schooling? What kinds of learning are assessed in schools? What messages do we give young people about their abilities?.

The organic emergence from classroom practice of these bigger questions of school-wide and system-wide organisation – and of the very aims of the education system – lend them a credibility and authenticity often absent from debates and public pronouncements on such issues. Their emergence in the action research context also led to their being considered predominantly in a constructive light. Thus, across the broad range of these considerations, the common concern was about how, on the one hand, MI/ TfU teaching and assessment were hindered by existing structures, practices and attitudes, and, on the other, how MI/ TfU approaches might help to resolve some of these difficulties.

Teacher isolation and collaboration

In setting about planning, many teachers commented on the relative isolation they experienced, whether within their classrooms (especially at primary level), or within their subject discipline at second level. The strong identification of second-level teachers with their subject area, and their specific responsibility for that, meant that, with few exceptions, they did not feel able to initiate cross-curricular work with colleagues. At primary level, teachers similarly planned in isolation, responsibility for the full curriculum with a single-class group being the isolating factor corresponding to the subject area at second level.

However, frequent reference was also made to the enjoyment teachers experienced when hearing accounts of the classroom successes and failures of other practitioners. For many, it was apparently the first time in many years – for some, the first time ever

– that they had shared good practice in this kind of context. This was true both of teachers between the levels, and within their own level. In evaluations, teachers commonly referred to the benefit they gained from hearing the accounts of colleagues' practice.

MI/ TfU within the whole school

During the Project, the teachers commented on the reaction of others to their use of MI/ TfU approaches. They reported polite interest from the majority of their colleagues; a few were apathetic or disinterested. Most principals were reported to be interested and supportive. Possibly, given the previous involvement of many of the teachers in innovative curriculum work, their colleagues saw little new in their efforts. Also, as the teachers restricted their Project work to non-examination classes, and were not attempting to promote MI/ TfU on a school-wide basis, there was little threat from its ideas to colleagues or to administrators.

The Project, in working from the outset with self-selected teachers, did not intend to explore the implementation of MI/ TfU approaches in a whole-school context. There is a growing body of evidence from the United States of significant success when such approaches have been built into planning across the school and curriculum (Kornhaber, 1998). However, many such school initiatives occur in cultural and social contexts that differ considerably from those in Ireland, and they are not likely to be replicated successfully here. Nonetheless, the implementation of MI/ TfU approaches in a whole-school setting in this country would raise many interesting questions for school management, curriculum and assessment policy, teachers' collaborative planning and evaluation, as well as for resource provision.

Finding time - for planning, evaluation, assessment and reflection

A common concern expressed by the teachers was the demand that planning for MI/ TfU teaching placed on their time. While most who commented on this also acknowledged the significant benefits of the time expended, nevertheless it remained an ongoing concern. Many suggested that regular commitment to teaching for understanding and the use of MI approaches would require some allocation of school planning time. Time concerns again loomed large when the workings of a portfolio assessment system were being considered, although here, as in earlier discussions, teachers felt that if new assessment practices succeeded in replacing some of their frequent marking and correction work, the initial extra investment of time would pay dividends later. Bearing the time concern in mind, presentations by the Project team stressed the possibility that many of the changes suggested or implied by MI or TfU

practice could be integrated into existing time availability. However, initial attempts would of necessity make additional demands on teachers' time.

This concern with time emerged frequently as an issue, teachers regularly remarking on the inadequate time available for staffs to plan and evaluate changes in the school, or for personal reflection and professional development. This problem of a lack of official provision of planning and evaluation time is not unique to Ireland, being common to many educational systems (OECD, 1998). The OECD notes that Irish teachers have invested considerable amounts of their own time in in-service training, and that this has allowed them to pursue their personal learning needs and interests. The OECD interprets the move away from "almost total reliance on a mainly voluntary system based in the holidays" as being "closely linked to an attempt to focus learning more on system objectives".

> The voluntary commitment of Irish teachers to in-service training and professional development is very high. The challenge is to build on that commitment and co-ordinate resources to further both individual and system needs (OECD, 1998: 90).

The remarkable level of personal time invested by teachers on the MI/ TfU Project over two years could be interpreted as their pursuit of personal needs or interests, but it was also in no small way a commitment to system reform.

CHAPTER 4

Multiple Intelligences, Teaching for Understanding and the Primary/ Second-level Schooling Transition

Pat Naughton

Context

In many countries, students transfer from elementary to second-level education at around the age of twelve years. The transition can be a difficult experience for these young people, as significant changes in their learning environment coincide with the onset of adolescence. Issues of adjustment, continuity and progression feature prominently in the literature on this schooling transition. Disjunction between the 'learning worlds' of primary and second-level schools has been identified as a major contributor to transition difficulties for students. Differences have been noted across the systems in the nature of teaching methodologies and approaches to assessment, in the structure of curriculum, in class-allocation policies, in the physical structure of the institutions, and in approaches to discipline and pastoral welfare. Underlying all of these, some claim that the very orientations of primary and second-level education are fundamentally different, even constituting "a clash of cultures" (Burke, 1987; Hargreaves, 1986). Also contributing to discontinuity is the separateness of the first- and second-level schooling systems, often with poor-quality communication even between neighbouring schools. One of the consequences of this is that teachers at each level are unfamiliar with the work of their counterparts at the other level. The primary / second-level interface is therefore a time and place when the educational progress of young people is vulnerable.

Curricular alignment

In Ireland, several reports have emphasised the importance and desirability of alignment or articulation between the primary and second-level curricula. Some have explicitly identified discontinuity as a real issue requiring a policy response ('The ICE Report', 1975; CEB, 1984, 1986; OECD Report, 1991; Ireland, 1992, 1995). The recognition of curricular discontinuity as a real problem was, in the main, a consequence of the rapid growth in enrolments at second level in Ireland from the late 1960s onwards. The appearance in schools of many young people who previously would not have, or could not have, considered secondary schooling forced a reconsideration of the

relationship between first- and second-level schooling upon all involved in education, and brought an urgent focus on curriculum issues. However, the curriculum gulf between the systems widened through the 1970s, largely consequent upon the introduction of the *New Primary Curriculum* in 1971, without a corresponding radical reform of the second-level curriculum.

In its *Discussion Paper on Primary Education* (1985), the Interim Curriculum and Examinations Board acknowledged the existence of a "change of emphasis from a class-teacher to a subject-teacher organisation" [upon transfer], and recognised "the need to reconcile divergent perspectives of primary and post-primary teachers in relation to curriculum theory and practice" (ibid., pp.16/17). Unfortunately, despite a brief spell in the mid-1980s when both first- and second-level curricula were considered by a 'Joint Committee' of the CEB, curriculum planning for the sectors has remained separate. Evidence of commitment at national policy-making level to coherent curriculum planning has not been reflected in collaborative efforts at sectoral level.

Assessment issues

The issue of assessment looms large at the time of transition between the systems, due to the differing approaches to teaching and learning within them. In Ireland, as in some other countries, the question of assessment at the interface has proved divisive. A significant feature arises from the purposes of assessment as perceived within the two systems – while the primary school has traditionally seen the formative function as paramount, at second level the quest for examination success has ensured that summative assessment is the dominant form. The nature of the assessment too has been different: at primary level, the teacher's informal assessments through classroom observations have been a significant element of the evaluation of a child's progress; at second level, written end-of-term or end-of-year examinations have been the major element.

The Irish experience of the Primary Certificate Examination from the 1920s to the late 1960s was that that particular form of assessment served only those students who were academically successful. It also promoted the perception of the functions of assessment as being primarily selection and ranking. However, the void left by the abolition of the Primary Certificate Examination in 1967 has never been filled in a satisfactory manner. The subsequent system of Pupil Record Cards fell into disrepute and disuse, having failed to gain the

confidence of teachers, particularly at second level. The setting by many schools of entrance examinations to select academically-able students - a practice prohibited from 1993 – led to resentment at both first and second level. The continued use of such assessments to the present day - now largely used to stream or band classes, and sometimes also serving a diagnostic function – is justified by second-level interests as being essential in the absence of a standardised assessment system in primary schools. Primary teachers point to the narrowing effects of preparation for such assessments on the curriculum of the upper primary classes of many schools.

The *Report of the Review Body on the Primary Curriculum* (1990), recognising the particular difficulties posed by the issue of assessment as students ended their primary schooling, proposed a 'pupil profile card' which would have assessment data entered from the junior classes - both informal teacher assessment and the results of formal tests. The Report further recommended that "information for the post-primary school should concentrate on summative evaluation"; that a "summary mark/grade/comment" on a student's overall level of performance should be provided, and that such a 'summary' rating would need to be standardised (p.85). Means of standardising such ratings were suggested: (i) through standardised test information; (ii) through group moderation, and (iii) through verbal descriptions of prototypes. A combination of these methods was thought to be the best solution. Since 1990, thinking on assessment at primary level has been largely along these lines (INTO, 1997; NCCA, 1993), and the recent (1999) Revised Primary Curriculum guidelines advance and further refine these proposals.

Transition from Primary to Second-level as a focus for the MI Project

The MI Project, in selecting the primary to second-level transition as an important focus, took into account the misgivings of teachers and others at the two levels of schooling, particularly regarding assessment practices, as well as the history of separate curriculum development at the two levels. The presence on the Project of teachers from both levels provided a rare opportunity for inter-level dialogue on issues of teaching, learning and assessment. Furthermore, the use of a multiple intelligences 'lens' in viewing these issues offered the participants a common focus, and gradually provided a shared language with which to reach new understandings. The nature of intelligence itself, and the implications of a pluralist view of intelligence for teaching and learning were considered by all participants on the Project.

One of three *Focus Groups* formed from among the teachers was asked to look specifically at questions of curriculum and assessment at the transition. The central question considered by the Transition Focus Group was as follows: *In what ways can the Theory of Multiple Intelligences and the Teaching for Understanding framework improve the transition between primary and second-level schooling?* The group's deliberations were informed by the general discussions in the Project sessions about the concept of multiple intelligences, about the meaning of 'ability' in students, and about what constituted 'learning success'.

All teachers on the Project were provided with the same materials - such as literature and teaching resources - and attended the same workshops, seminars and discussion groups. Thus, they were encouraged to apply the theory of Multiple Intelligences and later the Teaching for Understanding framework at their own level, in subject areas of their choice, and with class groups of their own choice. What follows is a summary of the responses of the teachers at each level to their classroom work with MI and TfU, with the emphasis on the relevance to the students at the time of transition.

Teachers' reports from the classroom

Primary teachers acknowledged that MI theory was compatible with the nature of their own classroom work – it reflected their teaching experiences and affirmed their own intuitive feelings about children and their learning. Furthermore, they claimed that their pre-service training had stressed many of the teaching and learning approaches validated by a theory of a plurality of intelligences, for example, the concern to individualise as far as possible the learning opportunities of each child; the efforts to vary approaches to material through multiple 'entry points'; the emphasis on formative assessment; the attempts to integrate learning experiences across the disciplines. Some said that they had been teaching "in an MI way", without ever calling it that. Yet all participants said that their teaching methodologies as well as their thinking about teaching and learning had been enhanced by the project. Many of the primary participants however were also of the view that given the increasing emphasis upon academic performance towards the upper end of primary school, the approaches supported by MI theory and TfU were most likely to be employed in the lower and middle sections of the school. They commonly expressed the belief that children would benefit from a true MI approach up to the end of primary school and beyond, but that

children who were not strong academically lost out in the preparation for entrance assessments.

Teachers at second level expressed great enthusiasm for the approaches of MI and TfU throughout the Project, and in common with the sentiments of their primary colleagues, declared that these approaches accorded with their long-held views about the differences between children in the ways in which they learn. Encouraging results were reported by all teachers, regardless of the subject taught. Yet, it was a widely-held view that features of the learning environment at second level militated against the implementation of MI/ TfU approaches. Short lesson periods and other timetabling arrangements, rigid subject boundaries and class allocation policies were frequently listed as factors inhibitory to MI approaches – integration across subject areas for example was very difficult to organise; learning activities requiring more time than the normal class period could not be undertaken.

However, several further factors were identified as even greater obstacles: the first was the prevailing view of intelligence as a unitary and fixed capacity – indicated by linguistic and mathematical abilities; secondly, the equation of this measure of intelligence with a student's 'ability', and thirdly, the influence of the terminal examinations on the learning environment of the school. Thus, the way the school 'community' thought about and talked about intelligence and ability was the greatest determinant of what could be attempted by any individual teacher. At the Project's conclusion, participants who responded to a follow-up questionnaire said that they had found it more difficult to change their practice than to change their thinking about teaching and learning.

Teachers at both levels were at one in saying that they felt obliged to pursue coverage at the expense of depth. In each case the principal villain was identified as the focus of the (mainly) written examination. Not only was it the narrow form of the assessment that was highlighted, but also the 'high stakes' character of it. While at second level, this was tied in to the Points System and access to third-level colleges, at primary level the assessment was effectively 'high stakes' because it was perceived to determine possibilities and opportunities for students from the outset of second-level schooling.

Assessment at the transition

On the issue of assessment, primary teachers acknowledged later in the

Project that they had not realised the degree of pressure exerted upon second-level teachers by the terminal examinations, and now felt more sympathetic to their situation. Nevertheless, they made clear their dissatisfaction with the entrance assessments set by many second-level schools, sometimes expressing this quite forcefully. For their part, teachers at second level acknowledged that they had not appreciated the depth of frustration of their primary colleagues with the assessment situation. Many of them however also believed that some form of standardised summative assessment was essential at the beginning of second-level schooling, and that the primary school had a role to play in this.

Most teachers of First Year accepted that they had little knowledge of what actually went on in the Sixth Class classroom. Primary teachers expressed a similar unfamiliarity concerning the work in First Year. The teachers unanimously agreed that the quality of learning continuity as students transferred to second level was poor. Teachers in First Year may spend time in unnecessary revision, but equally may assume understandings and knowledge that students do not have. There is a fundamental problem with the passing-on of assessment information from teacher to teacher - and not just in Ireland, where difficulties in this regard have been mentioned above. Jarman's studies in Northern Ireland (1995, 1997), and those of Jones and Jones (1992), Hall (1997) and McCallum (1996) in the United Kingdom show the range of constraints inhibiting both the transmission and subsequent interpretation and utilisation of assessment data. Seidel *et al.* (1997) report similar difficulties in the United States with the use of "pass-along" portfolios for assessment. It is probably true also, as Jones and Jones (1992) point out, that teachers have little expertise in making use of individual students' assessment information in planning their courses, and would need considerable assistance towards this.

Teachers on the MI project identified the main obstacles to learning continuity as: poor levels of communication between schools and schooling levels; separate curriculum and assessment planning at first and second level, and reluctance of teachers to engage in joint curriculum planning. However, teachers from both levels felt that the kinds of teaching, learning and assessment supported by MI and TfU thinking could be a valuable means of building an inclusive learning programme across the schooling divide. It was further felt that the portfolio could be a useful tool in achieving a more holistic assessment of a student's strengths and weaknesses, although the

conceptual and practical difficulties inherent in the use of portfolios needed to be resolved first. Many of the teachers suggested that joint consideration of the actual learning goals of first- and second-level schools was a prerequisite for progress in the area of assessment. It was believed that only when these goals involved a genuine pursuit of "the education of the whole child", that there could be real progress towards a true multiple intelligences learning environment.

Primary and second-level teachers: more alike than different

Questionnaire responses from the teachers showed the core concerns and values of teachers at both levels to be very similar indeed. The interpersonal dynamic of teaching was at the heart of these; thus the interactions between teacher and students, the observation of progress and successful learning in students, the growth of student understanding, the development of teacher-student relationships – all of these give cause for enjoyment and satisfaction. There was no significant difference in the responses between teachers at the different levels. Despite the frequently-noted culture of the second-level classroom as a subject-centred one, the second-level respondents were remarkably consistent in attributing their teaching enjoyment to “classroom contact”, “involvement” with the students, working with students, building relationships with the class, and seeing evidence of successful learning and “achievement” among students. Primary teachers said that they enjoyed the same things in their teaching.

On the Project, contact and dialogue between the teachers proved to be a significant element in the emergence of mutual understandings. The mere opportunity to sit down together in a neutral forum to share understandings about practice was a novel experience for the participants. Most acknowledged that it was the first time they had engaged in professional dialogue with teachers from another schooling level. The presentations by teachers of their classroom work were also received with great interest – again, most said they had never had the opportunity of hearing the classroom testimonies of colleagues, either from their own or another level. Second-level participants also remarked on the rarity of hearing colleagues talk about other subject areas, saying it gave them greater insight into the concerns of other teachers. These teachers also commented that the barriers between subject areas within their schools could be as real as the primary / second-level divisions.

A majority of the Project teachers stated that their understandings about the work of teachers at the other level had changed as a result of their participation in the Project. The most common characteristic of this was a realisation of the mutual concerns of both groups of teachers, and in many ways a sharing of values and ideals in teaching. Myths about 'the other level' were exploded by the testimonies of teachers from their classrooms. Many participants expressed a desire for opportunities for greater collegial contact between schools as well as within schools.

Conclusions

Burke (1987) traces the historical evolution of elementary and secondary schooling in western societies, and argues that while the primary system is identified largely with the principles of progressivism, at second level the underlying philosophical approach has been the traditional one, primarily emphasising intellectual development. He suggests that the nature and shape of the student's learning experiences are determined by these contrasting philosophies. Despite many changes in Ireland's schools (especially at second level) over recent decades, Burke's analysis remains accurate. Many today still contrast first- and second-level schooling with such terms as "child-centred v. subject-centred", "progressive v. traditional", "task-focused v. ability-focused". While research suggests that the reality of classrooms does not exhibit such clear contrasts, nevertheless there is a gap which needs to be bridged.

Just as the building of any bridge requires detailed surveying of the ground on either side of the gulf, so does the ground need to be levelled out on either side of the transition divide. Gardner, Torff and Hatch (1996) have examined the beliefs and values underlying 'progressivist' and 'traditional' schooling traditions, and have concluded that a melding of the two approaches is possible. Gardner *et al.* propose a "new progressivism" that would lead students towards deeper and enduring understandings in the disciplines. A similar proposal is made by Burke (1987) regarding the contrasting traditions in Irish schools. In our second-level schools, he claims, the traditional education experienced by most students is "a rather distorted version of the classical ideal of Plato and Aristotle which stressed the development of the *arts of knowledge* rather than the mere acquiring of knowledge and information" (p.17). He further argues that the excesses of the Progressivist movement are not compatible with the philosophy of John Dewey.

> Much of what is best in both approaches is lost through such misinterpretation and polarisation, and the fact that the authentic versions of both traditions may share some common roots is missed (ibid., p.17)

Towards the alleviation of transition difficulties, Burke says that any prescription must entail "the identification, re-examination and realignment of the fundamental philosophies underpinning the approaches adopted in primary and post-primary teaching today" (p.20) – this would of necessity have significant implications for the pre-service education of teachers.

The experience of the MI project was that teachers from both levels want this "realignment of philosophies" to take place. Many of their own beliefs about children's learning, and their own ideals in education are, at root, quite similar. The project's dialogue revealed primary and second-level teachers to have much more in common than they expected, and suggested that it was largely the structures and traditions within which they worked that separated them in terms of day-to-day practice.

Teachers at both levels endorsed the pursuit of understanding as a worthwhile educational goal, with the use of MI strategies as a means towards that end. Taken in tandem, these two main strands of the project were seen as valuable curriculum-planning tools, having the potential to create a learning environment which would hold the allegiance of teachers at both levels. It may well be that the educational practice underpinned by a pluralist view of intelligence and an emphasis upon understanding in learning could provide sufficient shared ground to bridge the primary/ second-level divide. The learning environment thus created promises to meet the learning needs of early adolescents, providing a gradual induction into disciplinary understandings. The accompanying development of collegiality among educational professionals would be a welcome and rich incidental outcome.

CHAPTER 5

Mapping the journey: The Implications of Multiple Intelligences and Teaching for Understanding for the Teaching of Civic, Social and Political Education

Marian McCarthy

Preamble

To date, the titles of the three pieces I have written during the course of this project all have to do with making a journey ("MI:Making Inroads" in *MI Bulletin 2,* 1997: "Finding Pathways" in *MI Bulletin 5,* 1998: " Circling the Territory", in *Innovations in Assessment in Irish Education* – (Ed.) Hyland 1988). It is important to point out at the outset of this report that I still see myself mapping and tracing the course of that journey and that its ongoing nature is part of the process of my learning and my attempt to teach for understanding - hence the present title. For me, reflective practice implies that there is no point of arrival, rather there are many points of departure. What makes the journey worthwhile is its process, which unfolds in each teacher's openness to the challenges of student-centred learning and his/her willingness to change direction in the pursuit of this goal.

The developmental work of the teachers at the centre of this project and my attempts to facilitate and chart that growth will, I hope, reflect our openness and willingness to change. As the process of action research implies, the journey involved is cyclical (McNiff, 1993, p.30). Teachers continue to read the signposts along the route and to redefine and refine their practice in an attempt to include all students in the learning process. As reflective practitioners and action researchers, teachers acquire the tools to map the journey carefully, but in the murky world of practice its course has a way of changing. However, the developmental process of action research gives us permission to be in a safe place at any point along the way, for we are making the journey as learners, it is therefore always possible to stop, to take stock, to re-view, to re-visit and then to re-route. It is in this spirit that I intend to continue this journey…

Part 1: Introduction to Civic, Social and Political Education and its relevance to the Multiple Intelligences, Curriculum and Assessment Project.

Section 1: Background to the subject of Civic, Social and Political Education: From Civics to Civic, Social and Political Education in Second Level schools.

The new Civic, Social and Political Education (CSPE) programme is a mandatory subject within the Junior Cycle, introduced into all second-level schools in Ireland in 1997 to

replace the old Civics syllabus. In terms of national recognition and certification it has the status and accountability which the old Civics course lacked. All schools will be examined in CSPE as part of the Junior Certificate examination in the year 2000. Those schools who opted to join the programme during its pilot phase had the opportunity of being assessed for certification for the first time in 1999.

Unlike the old-style Civics syllabus whose core was perceived as factual, academic and indeed irrelevant to the lives of students, Civic, Social and Political Education is a course in democratic citizenship, based on human rights and human responsibilities. Its syllabus is constructed around seven key concepts:

1. democracy,
2. rights and responsibilities,
3. human dignity,
4. interdependence,
5. development,
6. law
7. stewardship.

In practice, these concepts are to be mediated through four developmental units through which students will progress over the three year programme: The Individual and Citizenship, The Community, The State: Ireland, and Ireland and the World (An Roinn Oideachais, 1996).

The philosophy underpinning Civic, Social and Political Education, as defined by the National Council for Curriculum and Assessment, is that of active learning:

> Active Learning provides the most appropriate vehicle for the attainment of the types of objectives relevant to civic, social and political education, and for the consequent development of active citizens. Conversely, it is difficult to imagine students as active citizens if their experience of learning about citizenship has been predominantly passive. NCCA proposes that all programmes in civic, social and political education should subscribe to, and emphasise, guided active learning methods as their primary method of teaching/learning (NCCA, 1993, p. 16).

Such an approach implies a new model of assessment for this subject at Junior Cycle. Though achievement will be reported in the usual way, i.e. in terms of grades obtained by students at the end of the three year cycle of the Junior Certificate programme, it will be carried out in two modes: a written terminal examination at the end of the third year and the submission of either a Report on an Action Project or a Course-work Assessment

Book. Of crucial significance here is the weighting of the modes of assessment - the terminal examination will receive only 40% of the marks, while the active learning philosophy which grounds the course is validated in the 60% awarded to the alternative and more authentic forms of the Report and the Course Assessment book. Though the latter ultimately rely on the verbal skills of the students in the written or oral presentation of their action project work, students are given ample time over a three year period to choose, carry out and report on their project, preferably within the context of group work.

Though offering an alternative to Civics in its philosophical outlook, its pedagogical focus and practical orientation towards active citizenship, CSPE retains the old Civics timetable slot and is therefore restricted within the current system to one class period per week. This is proving problematic for teachers and students in terms of the continuity and progression of the work. In order to address this problem, principals are being advised to timetable the CSPE teacher for another subject with the class or to timetable the subject on block for part of the school year (An Roinn Oideachais, 1997, pp.9-10).

Rationale for including CSPE as part of the Multiple Intelligences Curriculum and Assessment Project:

From the perspective of the *Multiple Intelligences Curriculum and Assessment* project and this report, CSPE's significance lies in particular in the following areas. The Active Learning philosophy which permeates the syllabus at second level has pedagogical implications for student-centred learning which can be examined within a Multiple Intelligences paradigm, in order to identify and throw light on the learning styles of students and the pedagogical opportunities available to teachers. An active learning model demands a reconceptualisation of the way we think about teaching and learning, about the student-teacher relationship and ultimately about how we conceive of the "intelligent" student. Since learning cannot be passive within this model, knowledge is therefore not some inert body of fact to be transmitted to the student. Rather, it is bound up in the transformative process of learning, where the student needs to make his/her own of the world in order to construct a knowledge that is grounded in understanding. Hence, as teachers we should have much to learn from a framework that provides us with a new model of intelligence and of understanding. The lenses of Multiple Intelligences (MI) and Teaching for Understanding (TFU) should provide valuable vantage points for CSPE teachers. Ultimately, these should provide us with an excellent opportunity to ground Active Learning within a rigorous theoretical framework, thus placing its methodologies within the holistic framework of teaching for the purpose of understanding rather than for the purpose of short-term gain through functional, ad hoc, strategies.

Furthermore, since CSPE provides a new model of assessment at Junior Cycle - 60% of the marks going for alternative assessment methods - its inclusion as a focal point in the project should allow teachers to explore the new assessment procedures in terms of and in relation to the authentic and ongoing assessment processes integral to a TFU/MI approach. Though the new assessment modes were in place for the national inservice programme of 1997, these were not set in stone and there was also much to be learnt from TFU/MI models regarding the mechanics, implications and the application of alternative assessment processes. Part 2 of this report will explore what was gained by filtering CSPE through these lenses, both from the point of view of its methodologies and assessment procedures.

Background to Civic, Social and Political Education as a special subject elective in the Higher Diploma in Education (a pre-service one-year full-time course for prospective second level teachers) and in the Higher Diploma in Curriculum Studies (CSPE) (an in-service one-year part-time course for practising teachers).

Since there was no trained cohort of teachers in this new subject area, both of these courses were developed in University College Cork to address the academic, pedagogic and administrative needs of teachers and prospective teachers who volunteered to, or were requested to teach Civic, Social and Political Education. The CSPE elective within the Higher Diploma in Education was first introduced in 1995. Since CSPE is now mandatory in all second-level schools, this popular elective is now a methodology course in its own right, having parity with methodology courses in other subject areas. The module consists of twenty-five one-hour sessions/workshops taught throughout the academic year and focuses primarily on methodologies, which highlight understanding and practise the pedagogical approaches and assessment processes at the heart of the subject at second level. During the 1997/98 session, which is the focus of this report, 37 of the Higher Dip. in Ed. students elected to take this module.

The Higher Diploma in Curriculum Studies (Civic, Social and Political Education) began in 1996. It is a recognised in-service course for second-level teachers and is grant-aided by the In-Career Development Unit of the State Department of Education and Science and the European Social Fund. This one-year diploma course runs throughout the academic year on Wednesday evenings from 4 - 9 p.m. and is designed to facilitate practising teachers. The course has eight modules each of twenty-five hours, five of these are taught weekly, namely: Foundations of Civic, Social and Political Education, Structures of Society, Curriculum and Assessment and two modules on Content and Pedagogy. Of the remaining three modules, one is concerned with Special Issues in CSPE and takes place

over five Saturday sessions, primarily in the first term, while the final two modules validate teachers' School Based Practice.

Though all modules are essential to the academic, professional and pedagogical development of teachers taking the diploma, two modules are directly relevant to the current report: - a module on Curriculum and Assessment (one hour weekly) and two modules on Content and Pedagogy (two hours weekly). The focus of this article is on the latter course, but I also relied on the former to provide the teachers with the necessary background in Teaching For Understanding and Multiple Intelligences Theory and with an understanding of current debates in curriculum and assessment. The module on Foundations in CSPE is also of relevance to the report in a broader sense, since it raised topical issues in the subject and provided teachers with the opportunity to discuss and apply their understanding of citizenship within and beyond their classrooms. Much of what teachers discussed in this module found its way into their reflective journals, which in turn informed teacher-thinking in the active learning project and portfolio work in the Content and Pedagogy course.

In the 97/98 academic year, thirteen teachers from schools in Cork, Tipperary and Waterford attended the Higher Diploma course. Their projects on active learning will inform the report in its focus on both Teaching for Understanding and Multiple Intelligences Theory.

The teaching team of 97/98

Before exploring the work of the CSPE teachers in both Diploma courses and its relevance to the Multiple Intelligences, Curriculum and Assessment Project 97-98, it is important to note the factors that directly and subliminally provided a sense of team work and shared understanding among those teaching the three modules relevant to the report. All of the teachers/lectures teaching these modules were involved as participants with varying roles in the Multiple Intelligences Curriculum and Assessment Project. The significance of this point is not to be underestimated when acknowledging the team spirit and unity of purpose that pervaded the course and contributed to its success and that of the Project. Of equal importance is the fact that most of the teachers/lecturers were also part of another team: that of the CSPE National Core Group presenting the national in-service programme on the subject. The teaching team of the Higher Diploma in Curriculum Studies (CSPE) in particular had a national and academic profile which made it unique both in terms of its contribution to CSPE and its commitment to the Project.

Part 2: Looking at the Work:

Introduction

The module central to the findings of this report is the double module on Content and Pedagogy, which focuses on putting the CSPE syllabus into practice. In order to fulfill the double function of assessing this unit on the one hand, and of contributing to the Research Project on the other, participants were asked to submit a project on active learning that would show, inter alia, what they had gained from the theories of Multiple Intelligences and Teaching for Understanding, in coming to terms with Active Learning. In Appendix 1, the outline of and guidelines to the project, which will help to clarify its scope and limitations in the context of this report, are set out[21].

The working title of the project was "An Active Learning approach to the teaching of Civic, Social and Political Education", but participants were encouraged to interpret this title flexibly as the project developed. Ultimately, the project was to be a written submission of no more than 20 pages of typed script, which did not include the appendix materials of photographic evidence/video or other data. Teachers worked from October'97 until early May'98 on the project. Participants were asked to select one methodology which they would be willing to practise over a period of time, from a range of active learning approaches provided. The core active learning methodologies of the project ranged from Group Work/ Discussion as a means of involving students and raising issues, to Drama-in-Education approaches, as ways of entering into and experiencing the world of citizenship, to a Semiotic approach to the Media, which invited students to become active, critical readers and viewers of material relevant to CSPE. In the 97/98 session, Information Technology was added to the list of methodologies.

The assignment sought to parallel one of the alternative assessment processes at second level, that of the Report on an Action Project, which invites students to carry out their own action project on any relevant theme, concept or unit of the course. Thus the project was framed within an action research framework, inviting teachers to take on their own action project concerning their practice of an active learning methodology. The criteria of assessment were transparent from the start; teachers were presented with the project outline, detailing its three interacting stages, namely Theory, Practice and Reflection. A range of possible questions that teachers might wish to consider in the light of their practice was included, and teachers were encouraged to prioritise their own questions and concerns. They were also given a rough version of the diagram in Appendix 2, in an attempt to define the broader picture and to ground active learning

[21] See also McCarthy, 1998, pp.144-151.

theoretically in terms of its constructivist orientation and its interconnection with Teaching for Understanding and Multiple Intelligences Theory.

The main body of this chapter has two main sections – a section on Teaching for Understanding and a section on Multiple Intelligences. The Teaching for Understanding framework is considered first, since it was the primary focal point of this phase of the Research Project. Multiple Intelligences is placed within the context of a teaching for understanding approach, where the variety of methodologies used are chosen to ensure and enhance understanding, rather than as ends in themselves. In each section the teacher's voice is heard in a series of selected quotations from his/her project work and general commentary is reserved until the end of each section. The commentary identifies common threads and highlights key points and observations in teachers' responses. For reasons of confidentiality, individual contributions/quotations are not named. However the work of all participants on both courses is appreciated and acknowledged.[22]

Using the Teaching for Understanding framework:
When working on their projects, the participants were first asked to reflect on the following questions concerning the Teaching for Understanding framework:

> What have I learned about teaching from this framework? In what way/s did I prioritise understanding because of this approach?
> What are the implications of Teaching for Understanding for an Active Learning Approach? Is TfU a precondition of Active Learning?

Teachers were also free to prioritise their own questions. In general, teachers used the above questions to formulate their thinking.[23] The following representative quotations give an idea of what teachers on the Higher Diploma in Curriculum Studies thought of the TfU framework:

> he TfU framework is a useful guideline in helping teachers to focus on students' understanding. The four elements outlined in the framework are useful in guiding the teacher to create a learning environment which concentrates on promoting understanding.

[22] All CSPE projects on Active Learning, from both Diploma courses, and from the Masters in Education programme, are available in the Resource Centre of the Education Department, UCC. All teachers have allowed their project work to be made available for the benefit of other teachers and of this research. (HDCS(CSPE),'98, HDE(CSPE),'98, M.ED'98)
[23] All references to teachers' work in this section come from projects in the Higher Diploma in Curriculum Studies (CSPE). This is because an analysis of TfU was optional for students on the Higher Diploma in

CSPE is not and cannot become an area where students learn to store information in preparation for a terminal exam. We know that pupils are very capable of giving the 'right' answer, the ethos of CSPE requires more than that. Teaching for understanding can provide an opportunity for students to be citizens rather than just knowing about them.

To turn activities (writing/acting/drawing) into performances of understanding, I as teacher must introduce an element that challenges students present thinking. For example, rather than using drama in education methodologies to demonstrate different communities I can combine this method within a teaching for understanding framework to ensure students take their learning further.... The main question to ask is "Can my students do this and not understand?" Can pupils carry out role-plays related to issues of justice and not understand the concept of justice in its many forms? By encouraging other students to explain and interpret what they see, compare body language to gesture and evaluate end results, I can at least further their thinking on a topic.

The emphasis placed on throughlines and on unit-long understanding goals was particularly useful in helping me to think about what I wanted the students to learn and gave me a focus when planning the performances of understanding which followed.

The attention given to ongoing assessment is a powerful feature of the framework. Because of the shift in emphasis from a terminal written examination, particular attention needs to be devoted to providing ongoing assessment when using an MI approach, in order to facilitate feedback for the students and teacher on how learning is progressing. By assessing understanding along the way one can also identify what is left to do and where to proceed next.

Students will understand if they are actively involved in the learning process. It is important for the teacher to ask herself how she knows that understanding/learning has taken place. When one observes the students carefully making a presentation or working together one can see that learning is taking place. Pausing regularly to reflect on what has happened is very important for TfU and also regular note-taking. I encourage my students to take whatever notes they choose…

Education; since they had only one session weekly on CSPE, all of them chose the option of thinking about active learning in the context of Multiple Intelligences, with which they were more familiar.

Commentary

It is clear from the above quotations that teachers have learned much about teaching and learning from working within the TFU framework. Teachers found that the framework helped them to focus on student learning and understanding. The opening quotation describes the framework as a "useful guideline" whose elements "create a learning environment which concentrates on promoting understanding", while the fourth teacher reiterates this point in highlighting the role which understanding goals play in maintaining the focus on student learning. The second teacher highlights how understanding goes beyond knowledge in helping students to "be" rather than just "know about" becoming citizens. This point echoes the constructivist thrust at the heart of a teaching for understanding approach, where learning is a transformative process. The quotations also show that teachers understand the subtle differences between "activities" and "performances of understanding"; this is well developed by the third teacher in the way in which she challenges student thinking through the drama in education process. This point will be discussed in some detail when teachers' TFU graphic organizers and their inherent performances of understanding are examined later in this chapter

The framework prompted teachers to ask questions about student learning. One teacher asks "Can my students do this and not understand?": another states: "it is important for the teacher to ask herself how she knows that understanding/ learning has taken place". What is important for the research findings here is that teachers have begun to make the connection between ongoing assessment and understanding. One teacher refers to "a powerful feature of the framework" that gives direction to her teaching. The need for teachers to observe students working together and to provide student time for reflection is also noted as important in assessing student learning and promoting understanding.

The responses given by teachers would indicate that the TFU framework has much to contribute to the teaching of CSPE and the practice of Active Learning. The following sub-sections expand on this.

The Teaching for Understanding Graphic Organizer (TfUGO)

The questions asked concerning the Graphic Organizer were as follows:

> How helpful was the TfUGO to me in planning my CSPE classes?
> How useful was it in helping me to give focus and direction to my chosen methodology?
> What advantages has the TfUGO over conventional schemes of work?

Before quotations are provided, this section includes the findings of a brainstorming session, representing the views of 13 teachers, on the advantages and disadvantages of the Graphic Organiser. This session took place in preparation for Lois Hetland's visit to Cork in April '98. The quotations which follow, should be read in the context of the brainstorming session, indicate both the positive and negative experiences of teachers with the Organizer before Lois' visit.

Advantages of the TFU ORGANISER: Group Brainstorm before Lois Hetland's visit:

Advantages

1. The entire scheme is on one page
2. The way it is structured forces you to critique the content of your course.
3. It forces you to keep the pupils in mind at all times.
4. Ongoing assessment is a major part of it
5. The onus is on the teacher to have a very definite line going through the planning.
6. It encourages you to react more to a syllabus than to a textbook.
7. It's conducive to team work - an excellent record for later classes - a consultative document.
8. It's an organiser, it's not meant to be descriptive and thoroughly detailed.
9. The throughlines can be an excellent idea – using wall displays of these in class, so that students know where you are at.
10. Lack of space can be an advantage as it forces you to step back and reduce your ideas. By being limited you are forced to be clearer about what you want to achieve.
11. It forces you to concentrate on what and how you want to teach.

Disadvantages

1. It's vague.
2. It doesn't provide enough space for a skeleton method outline -for understanding performances.
3. There is an imbalance between the two halves of the page- second is too vague.
4. The layout is poor -same format should continue.
5. Vocabulary is not user friendly-especially given the focus on understanding!
6. It lacks clarity
7. It suits the established teacher more.
8. It lacks space.
9. It should have a culminating evaluation as opposed to a culminating performance
10. Is its function to complement or replace a scheme of work?
11. There is not enough focus on content.

Selected quotations from teachers' project work on their experiences with and understanding of the role of the Organizer:

With the Graphic Organizer, the teacher has a plan of campaign from the outset which allows students to be responsible for their own learning, challenging its efficiency and providing the basis for collaborative learning in an active, meaningful fashion. It is obvious that performances of understanding demand thought and time...By listing means of assessment the teacher's mind is focused on the various strengths/learning styles of her students**.**

Using the TfU organizer at first seemed to be quite complicated and required several attempts before I was satisfied with how it worked. This initial difficulty was due in part to my uncertainty in knowing what the organizer was designed to do…My initial frustration was caused by my lack of familiarity with the CSPE course content which required a lot of reflection and attempts at planning a particular course unit... I decided to use the organizer to help me plan and organize what exactly I wanted my students to understand and used it to outline very briefly the various sequence of events and forms of assessment I would use to achieve the understanding goals for the particular area.

The TfU graphic organizer is very important in making me think about what my overall goals are for a particular topic, how many classes the topic will take and more importantly how I will know that learning and understanding are taking place.

TfU requires you to have more exact notions of what you wish to accomplish before you begin… I feel that it can encourage the user to condense thoughts and ideas in a positive and productive way. It also offers other advantages, mainly the benefit of an overview of an entire unit on one single page. The introductory, guided and culminating performances and assessments encourage a natural progression. When used correctly it became a constant reference point, particularly in ensuring the performances of understanding and their measurement. By using the TfU it is more difficult for students to learn and not understand...

In planning one of the modules I was teaching I used a TfU Organizer. This was a new experience for me. Initially it frightened me. The mere size and shape of the page made it somewhat unwieldy. With spaces for writing on curves, on the horizontal and on the vertical, it was graphically quite confusing. Then the terms used were a bit unclear and ambiguous. But one has to remember that these are just guidelines to help the teacher to plan and not a framework to be adhered to rigidly. Just as flexibility is encouraged in one's approach to teaching CSPE it is a mistake to think that lines and headings should determine how to teach…

The TFUGO therefore fits far more easily into active learning approaches and the theory of MI than the traditional monthly scheme of work. Far too often this produced little more than a rehashed version of the index of the text book-often done in retrospect.

Commentary

In retrospect, it is clear that the focus for discussion during the brainstorming session was too narrow[24]. Too much emphasis was placed on the layout of the Organiser itself than on its role and potential for furthering understanding. This is particularly evident in the list of disadvantages indicated by the teachers, many of which refer to the visual layout of the Organizer and with the part for part, rather than with the part in relation to the whole and to the concept of promoting understanding. However, the list of advantages indicates that, on another level, the Organiser helped teachers to focus on understanding and on the purpose of the planner. In hindsight, however, it would have been desirable to focus more on the conceptualisation of the four key elements of the framework in directing this brainstorm.

However, in some ways the mistake was fortuitous. During her visit to Cork, Lois Hetland was most helpful in encouraging the teachers to make their own of the organiser and she understood their frustration with it. Only then did we begin to realise that we could adapt this visual frame to suit our own needs - we could abandon it altogether and put our own in place! We could prioritise understanding and let that dictate the layout! Ironically, however, all members of the group were anxious to stay with the Organiser as given and rose to the challenge of completing it, while making their own of it in terms of CSPE. Somehow, once the frustrations were aired publicly and reassurance given, they seemed to dissipate! Another lesson learned from Lois was that the Organiser, or part thereof, could be used to critique or review practice, even if the Organiser had not been used in planning the teaching programme. I have found this point most valuable in reviewing my own practice.

On the positive side, therefore, the advantages of the Organiser, as identified during the brainstorming session, point to teachers' dawning internalisation of its purposeful nature in keeping the focus on perspective, rather than on course content. (" It encourages you to react more to a syllabus than to a text book") and on the student rather than the text: ("The throughlines can be an excellent idea – using wall displays of these in class, so that students know where you are at"). The later quotations show that Lois' visit did much to reassure teachers, and to console and convince us that we were

[24] This has been acknowledged in an earlier article (MI Bulletin 5, P.6, '98a).

moving in the right direction. And so the lack of direction which one might expect to find in the project accounts did not actually materialise. Despite the initial difficulties experienced by some teachers in coming to terms with the vocabulary and layout of the Organiser, all were able to use it to plan and focus on student learning. This point will be further developed when samples of completed Organisers are analysed later in this chapter.

There is much to be learned from an exploration of the selected quotations about what worked and what was difficult when individual teachers worked through the Organiser. As was obvious in the brainstorming session, the problematic areas for some teachers tended to centre around its layout and hence its ultimate purpose. One teacher, for example, found it initially to be "quite complicated" and noted that it "required several attempts before I was satisfied with how it worked"; while another presented a graphic picture of her real fear in confronting this "unwieldy" and "graphically confusing" document. Yet, what is interesting for the Research Project is how both teachers explain and come to terms with their frustrations. The first teacher focuses on her "lack of familiarity with the CSPE course content which required a lot of reflection and attempts at planning a particular course unit". This is a significant point for the findings of the Research Project, i.e. that teachers need to be familiar not just with the course content of their subject, but also with its perspectives and its holistic frame, before they can use such an Organiser. In the case of CSPE, teachers did not come initially to this new subject with the ready expertise which might make the elements of the framework more immediately accessible. Equally, the rigorous demands of the teaching for understanding concept itself should not be underestimated. Many scholars, for example, are familiar with their subject and its discipline, but do not have the complex skills of teaching to bring others to that understanding.

In relation to the teaching of CSPE, the Organiser helped teachers who used it to become more familiar with their subject and to recognise what elements they should prioritise. The teacher who was worried about her knowledge of CSPE pointed out that she "decided to use the organizer to help me plan and organize what exactly I wanted my students to understand and I used it to outline very briefly the various sequence of events and forms of assessment I would use to achieve the understanding goals of that particular area". Despite her reservations, then, the Organiser served its purpose in providing her with direction and focusing her on student understanding. The teacher who found the Organiser frightening, managed to lessen its impact on her by focusing on its purpose: " these are just guidelines to help the teacher to plan…it is a mistake to think that lines and headings should determine how to teach."

The positive responses to the Organiser, on the other hand, speak for themselves and show that teachers came to see beyond and behind its features to its purpose in promoting student understanding. In the end, there should be no difference in emphasis between what teachers say of the framework or of the organiser, for one begets the other. Yet it is important to uncover where the difficulties lie, even if in practice the two processes cannot be separated. On the positive side, it is interesting to look at some of the key words teachers have used to describe the attributes of the organizer, all of which point to it as a tool for understanding: it's a "plan of campaign", "an overview", a "constant reference point". In terms of teacher's planning time then, the Organiser keeps the focus on direction and on teaching in the context of student learning.

The first teacher's perspective, for example, is clearly her students: they need to be responsible for their own learning and in her plan of campaign, performances of understanding take time. She is conscious too of how Multiple Intelligences theory is intrinsic to ongoing assessment in keeping the teacher's mind focused on "the various strengths /learning styles of her students". This sense of coherence emerges again in the thinking of teacher number four: "TfU requires you to have exact notions of what you wish to accomplish before you begin". He goes on to highlight "the natural progression" between the stages of understanding performances and the assessments intrinsic to them. In the end, as the third teacher puts it, "it's a question of how I will know that learning and understanding are taking place".

In answer to the original, if limited, questions therefore, and considering the full range of projects submitted, it is fair to say that the Organiser as a Teaching for Understanding tool, was useful in helping teachers to plan CSPE classes/units. Moreover, its implications for Active Learning are considerable in moving it in the direction of performances of understanding, rather than activities, and ultimately in the direction of ongoing assessment. Teachers' projects and comments bear out that Teaching for Understanding is a precondition of active learning. As the last teacher quoted above points out "The TfUGO fits far more easily into active learning approaches and the theory of MI than the traditional monthly scheme of work. Far too often this produced little more than a rehashed version of the index of the text book, often done in retrospect".

An Exploration of Four TfU Graphic Organisers in the teaching of CSPE.[25]

Introduction:

[25] These graphic Organisers are reproduced in Appendix 3.

Each organiser will be analysed by considering how it relates each of the four elements of the framework to the teaching of CSPE. Blythe's "Criteria for Refining the Brainstormed List" for Graphic Organisers will be used to ensure that the path of understanding is adhered to. (Blythe and Associates, 1998, p.96). In providing a context to explore these exemplars, we begin by looking at the CSPE syllabus through the lens of TFU and to recognise how much of it is already designed around understanding. As outlined in Part 1 above, the concepts and units of the programme provide ample generative topics, which link school and the world. There is also much scope for performances of understanding, since these are already built into the philosophy of active learning which foregrounds the programme. The programme also facilitates the ongoing assessment of these, validated in principle by the 60% awarded for the alternative assessment processes.

One of the factors which made it attractive for teachers to try the TfU framework was that there were few, if any, texts available in 1997 for the teaching of CSPE, other than the Exemplar materials. This factor cannot be underestimated by the Research Project in gauging the success of TfU, since teachers needed some scaffolding to help them map courses which were as yet uncharted. The framework of TfU was attractive to them in providing this.

Generative Topics:

The first two organisers selected (Exemplars 1 and 2) chose variations of the same generative topic "The Community", which is part of Unit 2 of the CSPE programme. The other two organisers selected (Exemplars 3 and 4) show two more generative topics which are central to the teaching of the CSPE syllabus; "Rights and Responsibilities", which is one of the seven key concepts of the subject and "The Environment and our Responsibility towards it", a key area in the understanding of the concept of Stewardship and Rights and Responsibilities. These topics meet the criteria laid down for generative topics (Veenema, et al, '97, Blythe, '98); all are central to the subject, all are capable of being interesting and exciting, all provide opportunities for students to make connections to other courses as well as to life outside of school and all have related resources and materials to make the topic more accessible to students. How much learning and understanding they generated will be addressed as we work through the other elements of the framework. Each of these organisers provides any CSPE teacher with a planned unit of work which puts the active learning philosophy of the course into practice, by focusing on student understanding and its assessment as intrinsic to it.

Throughlines/ Overarching Understanding Goals and Unit-long Understanding goals: Each organiser presents four throughlines, which highlight what teachers believe to be the most important goals of learning within those units. This is of interest not only to the Research Project, but also to those interested in CSPE at a national level, in that it gives some ideas of how teachers are interpreting the syllabus and what is important to them in terms of concepts and student learning. In relation to the two organisers on "The Community", it is interesting to note their similarities while providing insights into the different ways that teachers can approach same the theme in terms of unit-long understanding goals and performances of understanding.

Both organisers focus on the same opening question: "What is a community?" and share the question "Are communities always good?" The third question "What are the characteristic features of communities?" is presented in the second organiser as "Different types of communities". One throughline in each case is distinctive: "Why are communities important?" has a different slant to the question "What affects community development?" What is significant in each case is that the teacher makes the throughlines transparent from the beginning and that they are reinforced for the students throughout the unit, in the goals and understanding performances which they engender. The display of throughlines in the classroom and frequent flagging of them can do much to keep teacher and students focused on the central issues of the topic, which can so easily be overshadowed by the flux of practice, particularly when action projects get underway. Equally important, therefore, is the link between these and the Unit-Long Understanding Goals of the Organizer.

Both exemplars provide coherence between their overarching and specific goals and begin with the same focus on defining community: "Students will explore the meaning of the word community and its different characteristics" and "Students will understand what a community is and how they are members of different communities". The individual stamp of each teacher comes across in such understanding goals as "Students will experience how different roles are perceived in a community", (exemplar 1), as distinct from "Students will understand and become critically aware of how words and images are used to describe gender roles in society", (exemplar 2). What stands out in both organisers is the student-centred focus of each understanding goal and the clarity of teacher planning here. The goals have a sequence from one to five, which is borne out in the gradual progression of the lessons. In terms of Blythe's criteria, these understanding goals are closely related to the throughlines, they focus on central aspects of the generative topics chosen and they capture what is most important for students to understand about this topic.

The same transparency, direction and student-centred focus are present in the other Graphic Organisers. Example three, on "Rights and Responsibilities", is comprehensive in targeting the central issues of this topic, from focusing students on active citizenship, to introducing them to The United Nations Declaration on Human Rights (UDHR) and then re- focusing them on the emergent concepts of the syllabus. Each unit-long understanding goal has a subset of questions, which maintain the direction of the throughline. For example, the third goal reads "Pupils will understand the significance of the UDHR and its relevance today: Who has rights? Where and when are rights denied? What is a declaration? Why the declaration?" Such questions provide the teacher with tools to direct individual lessons and target resources. The fourth organiser focuses on "The Environment and our Responsibility towards it" and sites its throughlines within the key concepts of the syllabus, so many of which are pertinent to this topic: Rights and Responsibilities, Human Dignity, Stewardship and Interdependence. This teacher makes her own of the unit-long understanding goals in prioritising just three of them to focus directly on the environment; the third is pertinent and linguistically playful in terms of student action: "What on earth shall we do? – Responsibility towards plants, animals and property".

Performances of Understanding and Ongoing Assessment (with specific reference to Exemplars One and Four).

It is important to restate from the outset that performances of understanding contextualise activities, lifting them beyond their practical and immediate application and grounding them in the understanding goals of the unit. In short, the active learning philosophy of the CSPE course does not condone activity for its own sake, indeed the latter is about engagement and not about doing. This point has important implications for methodology and for Multiple Intelligences approaches, since it underlines the fact that neither are ends in themselves. A variety of active learning methodologies will not make the student into an active citizen, unless these are structured and designed to help the student to make his own of the world through challenging his preconceptions of it and helping him scale the higher order thinking inherent in understanding it. Thus activities become performances of understanding when students are encouraged to demonstrate understanding by applying learning in new situations. It is this process which gives meaning to active learning approaches and to the action projects at the centre of the programme, the focus of which should be the application of the central tenets of CSPE in real-life situations, identified by the students themselves. In this context, assessment can no longer be some appendage; rather it is built into the learning experience. Let us now see how this works in the practice inherent in the organiser exemplars.

The first exemplar provides us with a range of performances of understanding that are staged to gradually draw students into the topic. We begin with "informal discussion", with "listing and comparing" and informal "feedback" in order to explore the characteristics of community. The guided inquiry performances invite students to perform role-plays, which explore the stereotyping of individuals and minority groups within the community. The ongoing assessment process is more sophisticated here, using a range of Drama-in-Education strategies (freeze framing, for example) and capitalising on group work. A variety of methodologies are at play and the teacher is using a range of intelligences to draw all students into the learning and to visit the experience from different points of view. The creation of a freeze frame or still picture of a situation, for instance, prioritises the bodily-kinaesthetic intelligence, since students need to physically enter into the picture to recreate it. For that reason too, the intrapersonal intelligence is engaged, since students need to enter into the spirit of the character being portrayed and to identify with it. When students are negotiating and planning their freeze frame, their interpersonal skills are to the fore as are their linguistic and logico-mathematical skills, in their ability to plan a sequence. Students are also challenged to write about this experience and to debate the issues emerging. The teaching approach is therefore well rounded, challenging and practical. Multiple Intelligences approaches are seamless, being built into the understanding process. The drama is an integral part of learning about roles in the community and their implications and is a necessary stage in giving focus and direction to the class discussion which follows, since it provides an experiential entry point for all, especially those students who might otherwise be excluded, if the linguistic and logical intelligences only were used. The culminating performances invite students to look at different types of community and to "compare and contrast" these. Thus, students' thinking is challenged in the emergent group discussions and written reflections and they are now well placed to begin a project on "My Own Community", or another of their choice.

In terms of the research findings of this project, it is important to note that teachers should be able to name the various kinds and levels of skills demanded in the students' learning process and that the CSPE syllabus requires students to identify and discuss these skills (An Roinn Oideachais, 1998). The Skill Strands section of the TfU framework is a practical tool which facilitates this. Too often we take for granted that students have the unnamed and unsupported skills necessary to allow them engage with the new skills we wish to prioritise. The TfU framework ensures that this significant aspect does not go unrecognised. In the case of exemplar one, the key skill identified is experiential, that of role play, the reinforced skill already practised is that of group work and group discussion; while that which is unsupported, but required, is written work, formal and

informal. The teacher's ability to name these skills and place them in the sequence of understandings is a sophisticated one, which needs practice and scaffolding: The TfU framework provides this scaffolding.

Exemplar Four "The Environment and our Responsibility towards it" designs performances of understanding for four lessons. The introductory performance concentrates on visual stimuli and brainstorming activities, which lead towards a definition of the environment. In the ongoing assessments, the students' work provides the visual stimuli to create the context in the first place, and from their media cuttings students then go on to create a collage or poster to reinforce what they have internalised about the environment. The guided inquiry performances focus on a Semiotic approach to a play script about pollution entitled *Look, Sea*, by David Campton.[26] In this case the teacher is introducing her class to the sign systems of drama present in the play text (Esslin, 1987). This approach will enable her to explore the play on all its levels, thereby involving the whole class and not just those to whom reading the linguistic text comes easily.

The advantage of using Semiotics as a methodology is that it allows the teacher to focus on every detail/sign as significant. Hence, she can look at the play in terms of its music, sound and sound effects, its visual aspects, such as its props, lighting and colour scheme, the facial expression, gestures and body language inherent in an enactment of moments from the text, to encourage involvement and understanding. In these inquiry performances, students are asked to work in groups on a significant line of the text and to create a freeze-frame and accompanying thought-track for this as part of developing their understanding. For homework, students are asked to follow this through, by bringing in props and symbols suggested by the extract. They are also given the choice of including make-up and costume for the characters. In terms of TfU, students have a greater chance of understanding the issues around the topic of Pollution when they use several entry points to do so. Semiotics facilitates this, since it can map on to any entry point and draws on all the intelligences, either aesthetically, in students' appreciation of the play on its many levels, or artistically in the students' own symbolic re-creation of the text and its issues. These are suggested in this exemplar through the making of a poster, the creation of a freeze frame, or the enactment of the text. The third lesson in this sequence of inquiry builds further on this process by asking students to share their symbols. The ongoing assessment is informal at this point, asking students to be aware of each other's contribution. The follow up work is of a written nature, and invites

[26] Semiotics comes from the Greek word for sign and as Saussure (1983) indicated "studies the life of signs within society".

students to write about the character s/he played in the drama and how that character felt about the issue of pollution.

The culminating performances use the other three lessons as a context and then invite students to make their own of their new insights into pollution, by asking them to work in groups of six and focus on what they themselves can do to exercise responsibility in relation to the environment. Their feedback assesses their progress and paves the way for the final step in their understanding, namely an action project on the theme "Litter in my school". The undertaking of this presupposes another series of lessons. In listing the skill strands used, the teacher give them all equal importance, working her way through six of the intelligences: the intrapersonal (bringing in students' own photos and the process of thought-tracking), the interpersonal (working in groups), the logical/ mathematical (planning the questionnaire), the bodily-kinaesthetic (the freeze frame), the visual-spatial (the poster) and the naturalist (the symbols, selection of flowers and shells, for example).

In terms of Blythe's criteria, the ongoing assessments in the exemplars above are moving in the right direction. Frequent opportunities for feedback are provided through the unit's performances of understanding; students know how they are doing through formal and informal feedback and there are opportunities for multiple perspectives on assessment in students' own reflective work. Such opportunities are also provided through teacher assessment and informal peer assessment which takes place, for example, in the analysis of freeze frames or prop/symbol displays.

In summary, the Graphic organisers explored above reveal much about the process of Teaching for Understanding as internalised by these teachers. Having read the projects of all thirteen teachers in the Higher Diploma in Curriculum Studies, I can certainly say that they were able to use the framework to plan and teach the CSPE course in a way that was student-centred and versatile. That we had initial difficulties with the layout of the organiser and the language surrounding the concepts now seems irrelevant in the light of what has been gained. Because of (and indeed sometimes in spite of!) this framework, teachers have been able to make their teaching goals more readily transparent and have learned to appreciate the symbiotic relationship between teaching, learning and assessing; that they could plan to this framework and teach accordingly is proof enough of that. The four organisers of Appendix 3 are all workable and are representative of the work of the whole group. All succeeded in incorporating the four elements of the TFU framework into the teaching of this new subject. If it began as a formula for some teachers, it became a reality when the framework began to come together and students began to make the process real.

Multiple Intelligences Theory: Introductory Note:

As seen in the exemplars above, Multiple Intelligences Theory (MI) is more than an end in itself, it is an intrinsic part of the Teaching for Understanding process. In relation to the active learning project outlined in Appendix 1, it is already contextualised as a means to an end. MI is at all times related to an active learning methodology, where the focus is on learning, rather than on activity for its own sake. The active learning wheel/circles in Appendix 23, reminds teachers that methodologies should not be ends in themselves, but need to be grounded in the subject and in theories of learning and understanding. In my diagram, MI falls within the ambit of TfU, which itself fits within a constructivist framework, underlining that we must begin where the students are and allow them to be partners in the learning. In presenting MI to the CSPE teachers in this way from the start, it had less chance of becoming an end in itself. MI theory needs to be grounded in active learning, so that its multi-modal pathways to understanding have the purpose of helping to create students (in this case active citizens) who understand their world. My assessment project links MI/TFU to specific Active Learning methods, therefore Multiple Intelligences is mediated primarily through these, linking it into the teaching-learning chain.

The following section provides a range of teachers' views on Multiple Intelligences theory and indicates how MI helped them to ground and think about their chosen active learning methodology and to explore the teaching/learning encounter. Teachers' findings on MI are presented in the context of Drama in Education, Group Work/ Discussion and Semiotics and, in order to highlight insights common to all the methodologies, the commentary will be kept until the end. The general questions, which provided a guideline for how teachers might like to frame their thinking about Multiple Intelligences are given in Appendix 1 and read as follows:

- How appropriate is the theory of Multiple Intelligences to an Active Learning model?
- How useful is the theory of Multiple Intelligences in helping me to see my students as active partners in the learning process?
- What are the implications of a Multiple Intelligences approach for the teaching of my chosen methodology? What are its implications for the teaching of CSPE?
- What are the implications of Multiple Intelligences theory in relation to alternative modes of assessment appropriate to my chosen methodology?
- What are the implications of MI theory for alternative modes of assessment of CSPE at Junior Certificate level?
- What are the difficulties which an MI theory poses for me? What are its advantages?

- Why MI?

Teachers could make their own of the questions and did not address them directly, rather they provided a scaffolding on which teachers could build.

Multiple Intelligences and Drama in Education methodologies:
The following quotations are from the projects submitted by the teachers on the H.Dip Curriculum Studies courses and the H.Dip in Ed. course:

> Drama in education methodologies can exploit several intelligences at once. The most common intelligence associated with this subject is bodily kinaesthetic, but there are others being put into operation. While carrying out freeze framing techniques in the portrayal of the refugee situation, the visual spatial intelligence was put into practice also. One group of students read the pictures of another group, looking for information through position, body language and gesture. Inter and intrapersonal intelligences were used when students were asked to comment on their own situations and others. From a teaching point of view the drama methodologies allowed me access to information I feel I would not have gained in an ordinary teaching situation**.** Using the mantle of the expert technique, one student, whom I would have previously described as sullen and uncooperative, responded very positively to the experience. Starting hesitantly in her role as a refugee, she developed an identity progressively over twenty five minutes. She grew into the role to a point where she questioned politicians, on an intellectual level in relation to funding and support and followed this by offering support on an emotional level to fellow refugees…As a result I have gained valuable information in relation to where some of the intelligences exist within my class. Combining information from before and after the use of drama in education methods, I now possess a more rounded picture. From an assessment point of view, there has been a development of character that will never be examined or credited in a terminal exam. Hopefully the coursework assessment book will go a long way towards recording their experiences during the time they were encountered**. (**HDCS (CSPE), '98)

> Drama in Education has worked really well for me in CSPE, Geography and even Irish. It has been a revelation to me to see a group of students who are usually bored or troublesome get so involved. The active learning approach has also changed the attitude of the class to CSPE - they are so enthusiastic at the moment ...There is nobody uninvolved and they are the sole individuals responsible for the outcome of the class. It is also very exciting to see students

who would be classed as academically "weak", turn around in this class and display talents and skills which would not be recognised were it not for the Active Learning strategies involved. In addition my role as teacher has changed. I acted as facilitator, helping students and directing activities rather than taking on the traditional role of teacher. Since beginning this project the classroom had become a very interesting, creative place for both the pupils and myself, a place where learning takes place for everyone. Use of the Multiple Intelligences in class is slowly but surely becoming second nature to me and the more creative I am, the more involved and enthusiastic the students are. In fact our class has become noted in the staffroom and by other students for its creativity and displays - a concept quite exciting for many in the group since they are classed as a lower stream. For me as a teacher, Drama in Education and Multiple Intelligences theory have worked wonders and I am at a loss to know why other teachers aren't using such strategies**.** The pupils benefit by learning, the teacher benefits from the ongoing feelings of accomplishment and fulfillment… I must admit at the beginning a lot of work took place in the preparation of a unit and a lesson and I had difficulty getting used to the management techniques required but now I am on a winner...(HDE, (CSPE), '98).

Multiple Intelligences and Group Discussion:

The "Walking Debate" is one way of structuring group discussion and best illustrates how the MI theory might apply. Debate of any kind involves discussion and communication. These call immediately on the inter- and intra-personal as well as the verbal-linguistic intelligences. Pupils need to get in touch with their own feelings on an issue and then communicate them to others in the group. They need to listen and become aware of other people's feelings and empathise with them**.** In the walking debate, the bodily-kinaesthetic intelligence is also activated. Pupils are asked literally to take a stance and walk through their thoughts in relation to a statement that is made by the leader of the discussion. The purpose of the statement is to generate reflection and discussion. As such, it has to be provocative and also appropriate to the age and ability level of the students. It therefore reminds us to keep understanding to the front of our minds when planning the debate**.**

The visual-spatial intelligence is also activated as pupils must observe what is going on to the left, right and the middle wing of the debate... active learning and MI require us to activate as many of the intelligences as we can by trying

out different methods of teaching and learning. While I had previously tried the formal debate in class, it was always the same more vocal pupils who wanted to be part of the team and therefore tended to limit and exclude the more quieter members of the class. The walking debate was more useful because it motivated and involved everyone in the class right from the outset. While the bodily -kinaesthetic intelligence engages during the debate, it is a result of the intra-personal reflection on each issue. Visual-spatial, verbal-linguistic and logical-mathematical intelligences within the group can come into play. As pupils develop their listening skills they are all the time keeping track of what is happening in the physical space around them and what is actually being said. I actually had to get a notebook and record some of the issues that were being raised. The discussion was developing at such a pace, I did not want to interrupt. (HDCS, (CSPE), '98)

In terms of teaching and learning MI theory concentrates our minds on the fact that we need to address the plurality of the child's intellect... Group discussion provides an opportunity for the whole child to make a valuable input… the fact that each individual group member has their own strong points serves to make the group stronger because they each need the other…normally when we think of debating or discussion we think of linguistic intelligence as being the most important. MI theory shows us that there are many other intelligences that are just as vital to holding a successful discussion or debate, namely the interpersonal, the intra personal and bodily-kinaesthetic intelligences. It is vitally important in any discussion to be fully aware of your own feelings...it is equally important to be aware of our own body language and its ability to transmit an unspoken message… If we truly accept and value the theory of MI then we are obliged as teachers to be far more inventive in our teaching. We must search for and develop methodologies that will allow all intelligences to shine in the learning experience. It means that we cannot go back to the hierarchical structure of teaching, rather we must grasp the notion of constructivism with both hands and give the students the freedom to explore and construct knowledge and understanding beginning with their own strengths…(HDE (CSPE)'98).

Multiple Intelligences and Semiotics:

(This lesson is about homelessness, the teacher is using the aural signs of music and sound and is working on slogans and songs to explore this issue):

One definite "magic moment**"** of teaching occurred at this point. As I wrote various song titles on the board one student picked up on one and began singing "The Streets of London". Usually A will do anything in his power to disrupt and bring the class to a standstill...After he had sung the first few lines the rest of the class stopped laughing and jeering and A sang the song from start to finish. I wrote some of the lines on the board as he sang them and by the end of the song the class had plenty of ideas (about homelessness). I realise that these moments do not occur often and it was great to see. He promised me that he would bring in his guitar the next week and perform the song. For a student like A this was a rare event. He is usually in so much trouble…it was great to be able to praise him for a change. This is the most literal interpretation of MI, he was able to excel at his strongest intelligence during this class and not in music class only. (HDE (CSPE), '98)

Multiple Intelligences Theory had forced me to be more embracing in my selection and indeed in my generation of activities. When taking semiotics as my methodology to activate the play script, I found activities I would not normally 'opt for' presenting themselves to me. For example using music to further explore the play and the issues of the environment is something I would never have attempted.

The fact that the music was compiled by the students themselves meant that it encapsulated their reading of the play. It was an indication to me of how well they understood the text and it meant that our exploration of the issues during that class used their work as a starting point. They provided the catalyst for the class. In so many ways this particular class fulfilled the active leaning criteria for it involved the students themselves, their opinions and insights, it was a thoroughly enjoyable class and it prompted a lot of peer affirmation with students themselves making comments such as "that's brilliant" and "cool" and asking spurring questions such as "How did you do that? In many ways in and through MI theory and an active learning model I was forced to reflect on my teaching methods, I felt an obligation to rise to what the students brought to the process…

Having been acquainted with the theory of MI has made me re-evaluate some activities which I have always associated with active learning strategies but which I would have used sparingly. The reason for this reticence was on a number of occasions I had been disappointed at the level of productivity they achieved. I am referring in particular to activities such as pair and group

work… In the light of MI theory which identifies an interpersonal intelligence, I have re-examined my activities profile. This year I have begun to incorporate more group and pair work into my classes. This time however there are two significant differences. Firstly, I put more planning into the activity and secondly, and for me more importantly, I have a greater conviction regarding the value of the method. I know that MI theory is based on complex studies and much research. In the fact that it validates these interpersonal skills which are exercised and demonstrated in groups ad pair work, it had provided me with the justification to employ them and devote time to them. I am more convinced of these values and as a result they are becoming a more important part of my classes… (HDCS (CSPE)'98) .

Commentary

In drawing the observations of teachers together, I wish to comment on three common threads: how teachers use MI to name and think about their practice, how the use of MI extends their practice, changing the role of the teacher and, finally, what implications MI has for assessment. I intend to draw on the findings of Project Zero here to develop my argument and to indicate that our experience of MI has been strikingly similar. (See particularly Kornhaber, in Veenema et al, p.75).

MI as a way of naming and thinking about practice

Throughout the examples above, teachers have used the theory of MI to scrutinise the active learning methodologies which they are practising. MI enables teachers to name the skills and strategies inherent in their practice and to look at these in terms of student learning styles. In relation to Drama in Education, for example, the first teacher learns about the intelligences already at play in this method and is then able to use these to track the progression of the drama: "Drama in Education can exploit several intelligences at once. The most common intelligence associated with this subject is bodily-kinaesthetic, but there are others being put into operation. While carrying out freeze framing techniques in the portrayal of a refugee situation, the visual-spatial intelligence was put into practice also. One group of students read the pictures of another group, looking for information through position, body language and gesture. Inter and intrapersonal intelligences were used when students were asked to comment on their own situations and (that of) others."

MI also proves helpful when another teacher is deconstructing the walking debate as follows: "While the bodily-kinaesthetic intelligence engages during the debate, it is a result of the intra-personal reflection on each issue. Visual-spatial, verbal-linguistic and logical-mathematical intelligences within the group can come into play". In terms of

meta-methodology, therefore, MI provides teachers with a grammar of their methodology, and hence with a way of decoding it and distancing themselves from the flux of practice in order to examine it. A teacher learning about the rudiments of group discussion comments that: "It is vitally important in any discussion to be fully aware of your own feelings…it is equally important to be aware of our own body language and its ability to transmit an unspoken message." Such an insight can only be gained if the teacher has the language, as well as the practical experience, to keep re-visiting her skills and strategies in order to learn from them.

I would concur with the Project Zero findings, therefore, that the MI lens provides teachers with a vocabulary and language whereby they can examine their practice. This is to be expected, since MI fits in with existing philosophies and practices, as Kornhaber points out (Veenema et al, p.75). A semiotic approach, for example, validates an MI approach by giving equal status to all sign systems, while Drama in Education practices are built on a process that involves the whole person from the beginning of the drama, hence all the intelligences are potentially at play. The signs of drama, indeed, are already present in each encounter of everyday life and are always just waiting to be tapped. The insights of the teachers above are therefore another reason for going along with Project Zero's philosophy of promoting Arts education. It is in the creative work of the students that so much of the learning is done. Equally, it is the art forms lurking behind imaginative and engaging active learning approaches, of which there are a plethora of examples above, which provide teachers with a rich tapestry of their practice, through and from which they can weave better performances of understanding.

MI as a way of extending practice and reappraising the role of the teacher

As a result of using MI as a lens to examine practice, teachers are gradually drawn into developing it. One of the teachers using Drama in Education notes that "I have gained valuable information in relation to where some of the intelligences exist within my class" and goes on to show how this has changed her view of the "sullen and uncooperative student". The beginning teacher learns to hold onto "the magic moments" of teaching which arise unexpectedly when the "troublesome" students turns the lesson on homelessness on its head. And this quotation, from an experienced teacher working with semiotics and group discussion, is heartening in its praise of MI and how it extended her practice: "MI Theory has forced me to be more embracing in my selection and indeed in my generation of activities…I was forced to reflect on my teaching methods, I felt an obligation to rise to what the students brought to the process." In developing her argument, it is interesting to note how MI has reassured her concerning the importance of pair and group work in the learning process. In short, it

validates her work, providing her with the justification she needed to spend time on developing what she now knows to be the interpersonal intelligence.

One of the implications of extending practice is that teachers usually question their role to date, and realise that this must change, if they are to prioritise student learning. It is clear from teachers views above that an understanding of the concepts and implications of MI theory both creates and facilitates this change. The beginning teacher using the skill of Drama in Education methodologies, clearly states that her role has changed: "I acted as facilitator, helping students and directing activities, rather than taking on the traditional role of teacher." Later, as she wonders why all teachers are not using such strategies, she adds that "the pupils benefit by learning, the teacher benefits from the ongoing feelings of accomplishment and fulfillment". It is time that the teacher's day was full of such moments, rather than with the drudgery of subject-centred practice.

The teacher who is tracking the walking debate again finds her role changing. "As pupils develop their listening skills they are all the time keeping track of what is happening in the physical space around them and what is actually being said… I actually had to get a notebook and record some of the issues that were being raised. The discussion was developing at such a pace, I did not want to interrupt. "This is an interesting role reversal, for it is usually the student who is reaching for the notebook and who is having difficulty keeping up with the teacher! The beginning teacher quoted, who is working on the same methodology, certainly challenges her profession: " If we truly accept and value the theory of MI then we are obliged as teachers to be far more inventive in our teaching. We must search for and develop methodologies that will allow all intelligences to shine in the learning experience. It means that we cannot go back to the hierarchical structure of teaching, rather we must grasp the notion of constructivism with both hands and give the students the freedom to explore and construct knowledge and understanding…"

MI and its implications for assessment

Returning to Drama in Education and MI, it is clear that such an active learning approach has implications for assessment. The teacher who watched the "sullen and uncooperative" student grow through the drama process into someone who could "question politicians …and offer support on an emotional level to fellow refugees", is well aware of these. "From an assessment point of view, there had been a development of character that will never be examined or credited in a terminal exam. Hopefully, the course work assessment book will go a long way towards recording their experiences during the time they were encountered." In terms of the alternative assessment provided by CSPE, which allows the student to get up to 60% of the marks for the course

assessment book, this teacher raises a vital point. Since she has grown and learnt so much, this student must be given the opportunity to show this and the course assessment book can facilitate this process and reward the student in terms of national certification.

An understanding of MI also questions the existence of the "weaker" student. CSPE teachers are well aware of the implications of this in the 60%/40%weighting of the assessment in favour of its more authentic forms. This was designed to avoid assessing any young citizen as a failure. There is a keen awareness among the teachers quoted above, that there is another way of looking at students. "It has been a revelation to me to see a group of students who are usually bored or troublesome get so involved…The active learning approach has also changed the attitude of the class to CSPE. It is also very exciting to see students who would be classed as academically "weak", turn around in this class and display talents and skills which would not be recognised were it not for the Active Learning strategies involved." Changing our views about what constitutes assessment, therefore, begins with how we as teachers see the student, but this, of course, is conditional on our understanding of intelligence.

I intend to leave the last word here to the young teacher who, in grappling with the concept of homelessness, symbolically found a home for this 'disruptive' student, in validating his musical intelligence: "After he had sung the first few lines the rest of the class stopped laughing and jeering and A—sang the song from start to finish…I realise these moments do not occur often and it was great to see. He promised me that he would bring his guitar in next week and perform the song. For a student like A, this is a rare event. He is usually in so much trouble …it was great to be able to praise him for a change".

In summary, I would add that teachers have taken the questions asked in their project assignment on board and that the answers are positive and promising regarding the important role which MI is playing in grounding Active Learning and enriching it. It also provides ways of giving teachers a way of critiquing and redirecting their practice, and, above all, it gives students back their rightful place as people with different learning styles, rather than as cogs in a machine.

In Conclusion

I opened this report with the image of a journey. I conclude it by reiterating the words of one teacher quoted above, which are significant in charting the future direction of this journey. "We cannot go back to the hierarchical structure of teaching, rather we must grasp the notion of constructivism with both hands and give students the freedom

to explore and construct knowledge and understanding". Indeed that is why we undertook this project here at UCC, to re-examine teaching and its role in learning and understanding. Having learnt so much through and with our teachers, there is no going back. The theories and practices implicit in Teaching for Understanding and Multiple Intelligences point us in a new direction, towards a constructivist approach, and so the journey continues for all of us and another cycle of reflective practice begins. In the words of Robert Frost:

> Two roads diverged in a wood, and I -
> I took the one less travelled by,
> And that has made all the difference.

CHAPTER 6

Reflective Practice: Mapping a Pedagogy for Transformation

Anne Rath

> *...meaningful professional development begins with the sometimes gruelling task of putting a bunch of chairs around a table and taking turns listening to each other. The effort is sustained over time and developed by the learners themselves. It engages teachers in the intellectual work of teaching and their discipline. It requires that administrators measure their work by the results fostered in classrooms. It asks community members to invest as colleagues in the work of their schools. These efforts ground the enterprise of education in* ***learning, listening, and talking*****.** (Jerome Murphy, Dean of Harvard Graduate School of Education, Alumni Education Bulletin, Dec. 1997)

The contribution of the Multiple Intelligences, Curriculum and Assessment Project to creating a model of professional development based on professional dialogue, inquiry, school-university partnerships, and collegial relationships should not be undervalued in its power to create a sustainable and lasting change in teachers' views of themselves as practitioners and professionals. This model contained all the essential elements of Dean Murphy's concept of "meaningful professional development" and having the enterprise of education firmly grounded in the subjugated elements of "learning, listening and talking." For over three years a sustained and engaged reflective "conversation[27]" occurred between a group of teachers, teacher educators, and researchers brought together from diverse levels and disciplines of the educational system in a bid to improve practice and to apply a theory "Multiple Intelligences" to the Irish context.

In this chapter, I will explore the dimensions and possibilities of utilising a reflective practice approach to professional development with particular reference to reflective journaling in the MI Project and to ongoing reflective journaling with pre-service Higher Diploma in Education (HDE) students. I will report on the significance of reflective journaling for providing an *intra-professional* tool for individual practitioners to expand their understanding and management of the self in relationship to their work as educators. Therefore, I am arguing that self-understanding is a central component of all

[27] For the purposes of this paper the meaning of "conversation" is drawn from the Latin word "conversari" meaning to dwell with. Dwelling with another demands presence, listening, witnessing, and support - elements that have been subjugated from curriculum-centred educational endeavours. The word conversation is also used as the "responsive interchange between thinking and acting" (Loughran, 1996. p. 57).

professional development work. Also, I am arguing that in order to understand the diverse ways and entry points to meaningful teaching and learning, we need to create structures for professionals to dialogue and witness each other's thinking about their work. Reflective journaling can therefore provide us with a useful *inter-professional* tool that expands the kinds of conversations that practitioners can have about their work. I will argue that inter/intra teacher reflection, are essential aspects of an education for transformation since both attend to the educational forms or schemata that structure educators' thinking. The ongoing transformation of these forms or schemata and their translation to practice in the classroom are at the core of reflective practice. Gardner (1983) has identified intrapersonal and interpersonal intelligences as the "super ordinate" intelligences, since these intelligences manage one's awareness of the self, and greatly influences our capacity to engage with the external environment in a productive way. In other words, these intelligences manage how we utilize the other intelligences as resources available to us in our engagement with the environment. Reflection fine-tunes and hones an individual's intrapersonal intelligence, that is, an individual's knowledge and awareness of him/herself, and his/her interpersonal intelligence, that is, his/her management of the self as learner in engaging with others in appropriately utilising the environmental resources available to him/her. This activity, self and his/her engagement with the environment, is the cornerstone of all developmental work.

The use of reflective journaling as a reflective practice tool is an effective way of documenting those forms and provides both researchers and professionals with rich 'experience-near' snapshots of the complicated process of teaching and learning from diverse perspectives. Although the reflective journaling as reported here was neither a major component nor research strategy of the Multiple Intelligences Project, it has much to offer action researchers, policy-makers, educators, and professional developers in thinking about professional development needs generally in education and other professional groups. In addition, it holds the possibility of generating rich understandings of different contexts, teachers, and students. Furthermore it highlights the multi-dimensional nature of educational meanings emanating from different sources and perspectives. My main argument will centre on the need to reconceptualize professional development work as primarily one of bringing professional dialogue, i.e. *talking, listening and learning,* to the foreground in reform endeavours. Professional dialogical structures are particularly important during times of rapid social and educational changes such as we are currently experiencing. Professional development endeavours need to be primarily concerned with the building of professionals' capacities to become what Eisner (1985) calls both "connoisseurs" and "critics" of their

own practice. Such a movement requires ongoing support and institutional conditions conducive to reflection. Reflective journaling is one such framework and support.

The application of theory to practice is all too often simplistically conceptualised as a rational, linear, uni-dimensional process. Often, it has been reduced to an in-service model of training teachers in acquiring a number of discrete skills and knowledge and applying these skills to their classrooms. In this framing, educational policy-makers have conceptualised professional development within a knowledge/skills acquisition paradigm, and teachers have been conceptualised simply as "technical intermediaries" with little thought or resource given to teachers as active meaning-makers, embedded in larger socio-cultural and political contexts that impact greatly on what is possible in the classroom. In many cases little ongoing attention has been paid to practitioners' interpretation of policies thereby forcing them to become, by default, what Lipsky (1980) calls "street-level policy makers". In other words, without adequate support and ongoing evaluation of the implementation process, teachers as public servants are left with a wide range of discretionary power in interpreting and implementing policies emanating from outside the classroom. This rational technical conceptualisation of policy-making and policy implementation renders invisible the experiential knowledge base of teaching and learning, and the agency of teachers and administrators. It ignores four crucial components that are powerful mediating forces in any reform endeavour. These are:

> (1) Practitioners' own educational theories and their interpretation of theory, (2) The particularity and uniqueness of each teaching context,
> (3) Practitioners' dispositional/attitudinal and epistemological dispositions that influence their approach to knowledge, teaching, and learning, and
> (4) Social and Cultural context.

These mediating forces exert enormous influence on the quality of the educational encounter. A reflective practice model effectively addresses these mediating forces, since under girding this approach is a careful attention to the meaning-making structures of teachers, an acknowledgement of the complexity and contradictions of teaching and learning endeavours, and the significance of the educational context, including social and political issues, in shaping educational outcomes. It is my contention that if we want to create sustainable and transformative professional communities of teachers, models of professional development must focus on building *the habits of mind* conducive to reflective teaching, and any model of professional development must engage actively with these four components. Models must move from a curriculum-driven approach to a learner-centred one, and teachers must be placed at the centre of

development work[28]. Before I move on to the body of the paper, I will briefly comment on these four mediating components.

(1) Practitioners' Educational Theories: A Legitimate starting place for Educational Change

An exploration and explication of practitioners' own living educational theories generates data on the gap between "espoused theories," that is, those theories that a teacher claims to follow, and her "theories-in-use," that is, those theories that can be inferred from practice (Argyris, Putnam & Smith, (1987). These educational theories largely regulate what practitioners do in their classrooms. Developing a consciousness of these educational theories is a necessary first step toward behavioural change and conscious regulation. Argyris et al. argue that it is reflection that makes one aware of these gaps:

> Theories- in- use are the often tacit cognitive maps by which human beings design action. Theories- in- use can be made explicit by reflecting on action. But we should note that the act of reflection is itself governed by theories-in-use. Becoming an action scientist involves **learning to reflect** on reflection-in-action, making explicit the theories-in-use that inform it, and learning to design and produce new theories-in-use for reflection and action (1987; p.82-83).

These tacit cognitive maps or living educational theories can often run counter to those public educational theories underpinning prescribed curricula. In Ireland there is a constant cultural acceptance that we, as educators, have a shared educational vision of the purpose of education. However, such a shared vision is rhetorical rather than real since there is a lack of ongoing debate about educational means and ends. Indeed,

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[28] In a time of immense curriculum change nationally at all levels, there have been scant and inadequate resources given to the developmental needs of teachers as professionals. Historically, there has been a dominant mindset that sees the work of school change completed with the publication of the 'new' curriculum. In-service provision has been scantily available and viewed as an expendable expense by the Department of Education and Science. At best, teachers are given a few professional days to 'ingest' the new materials with little cognisance of the complexity of curricular and instructional change in schools. This complexity requires ongoing support, training and in-service. This conceptualisation is not peculiar to Ireland. What is peculiar to Ireland is the lack of ongoing professional development opportunities for teachers at different stages in their career. In order for teachers to take ownership of curricular materials and in order to generate new understandings of these materials in dialogue with practice based concerns, I am arguing for frameworks and structures that allow for ongoing dialogical cross-sectoral conversations and research. Curriculum writers, policy-makers, and teachers need to stay closely in touch with monitoring and evaluating the implementation of any new curriculum. Given that Ireland for the first time has the resources to substantially re-train and upskill teachers, there needs to be a concerted effort to meet teachers' needs in this area. There should be far more resources available for teachers to conduct their own practice based research. The future challenge will be for teacher unions, as the major professional lobbying group, to make demands for the kind of resources that this kind of developmental work requires.

there is a dearth of research that emanates from the life worlds of schools as social and political sites and from the perspectives of practitioners and students. O' Sullivan (1994,1999) and others have documented the consensual nature of Irish educational discourse, and have argued how this contrived consensus is used to cover up conflict and discordant voices. This lack of debate is especially apparent when it comes to those social issues that are contentious and conflictual in nature, for example, gender equity (O'Sullivan, 1999) and social class (O'Sullivan, 1994; Drudy & Lynch, 1993, Lynch, 1999). There is a lack of debate about the multi-dimensionality of meanings, beliefs, practices, and values in Irish education. O'Sullivan (1999) in his ongoing case study on Irish policy-making has noted the filtering out of discordant voices from official Irish educational thinking:

> *… the most striking feature to emerge from an analysis of official Irish educational thinking from the 1950's is its insulation from competing/contesting viewpoints, and the associated mechanisms such as editing, filtering or excluding discordant meanings through which the orthodoxy of its understandings was maintained… (p.3).*

I would add that this orthodoxy is also maintained by the systematic silencing of teachers as significant knowledge sources and knowledge generators, and by the dearth of practice based research emanating from Irish classrooms. In order to understand the full complexity of teaching we need to create professional spaces for teachers to generate ongoing research on, and evaluation of, their own practice. Until both teachers and students are conceptualised as rich knowledge sources that reflect significant perspectives on the educational system, and perspectives that emanate from a *situateness* in different contexts as cultural and political sites, the hegemonic structures that legitimise some voices over others will continue. This situated knowledge should be an essential and central part of the knowledge base of teaching and learning. Current practices, particularly the predominance of knowledge delivery models of in-service and professional courses, legitimate a teacher dependence on an "expertise" emanating from the academy or university sector.

There is a dominant belief that school practices match the rhetorical claims of public educational policy documents and policy-makers. For example, active learning, holistic child development, and child-centred pedagogy are espoused in all our educational documents/curricula as being central and integral to our beliefs about good educational practice. Yet, these claims will remain largely aspirational in nature until resources are made available to apply such approaches, or even to engage in a debate about the meanings of these concepts for educators. Schools and classrooms are largely set up for traditional didactic approaches and schools have access to uneven resources of art

rooms, science laboratories, gym facilities and so on. In secondary schools, the school timetable fragments knowledge into 40-minute discipline segments with little room for exploration or in-depth understanding of a subject or topic. Indeed, current assessment modes and the "points race" emphasise curriculum coverage to the detriment of other educational goals and aims.

Exploring and documenting the living educational theories of teachers through reflective journaling can be a powerful data generating tool for explicating the life-worlds of students and teachers, and documenting the multi-dimensional nature of educational practice. It can also be used to document the gaps between theories-in-use and espoused theories, and move toward developing deeper ongoing understandings of actual practice concerns from the perspective of teachers and students, embedded in different contexts. Instead of beginning with rhetorical claims of good teaching and good schools, the starting place must be to acknowledge the gaps between espoused theories and theories in use. Beginning with rich descriptions of present practice and the concerns emanating from this practice can capture both the complexity of teaching, and also the pedagogical, cultural, and institutional issues that impact on teaching. Then, systematically unpacking the living theories, assumptions, and values underpinning those practices, generates data on the cognitive structures or schemata that teachers use to understand their practice. These cognitive structures need to be made visible and become an integral part of development work. Cognitive structures may need to be expanded upon or appropriately challenged thereby facilitating teachers to rethink education and learning.

Professional development models should focus on providing teachers with the necessary 'life-long' habits of mind or thinking dispositions that can successfully unpack personal/professional theories, converse with complex educational phenomena, experiment with different hypothesis and consequences of action, and rethink teaching and learning in light of an ever expanding pool of data. Such habits of mind move teachers toward an expanded professional role, that of teacher-as-researcher, critical curriculum consumer, and knowledge generator[29]. However, an essential starting place is to uncover practitioners' own theories since these are the theories that become the structure/framework within which practitioners interpret and make sense of all new theories and knowledge. Indeed this approach is integral to any learner-centred

[29] This new role is nowhere more evident than in the recent practice of seconding experienced teachers to engage in various curriculum, staff-development, and policy-implementation roles. The professional/personal development from such an expanded role cannot be underestimated. I believe that all teachers require space to develop in these ways, and their work as teachers will be greatly enhanced and enriched.

approach to education (Lambert and McCombs, 1998) and is especially appropriate for using a Teaching for Understanding (TfU) framework. In recent educational reform movement in the US, including numerous projects at Harvard's Project Zero, the Coalition of Essential Schools Movement, Accelerated Schools Movement, The Comer Schools Movement, and teacher-research movements both in the UK and US, teachers' conceptualisations and understandings of their practice are given centre-stage. These reform initiatives understand that development work must acknowledge and support teacher's "transformations of mind" (Kegan, 1994). Not to focus on educators' understanding as the key unit of analysis and attention would "contradict the epistemological premises of teaching for understanding." (Perrone, 1998, p.24). A reflective practice approach carefully attends to the *forms* of mind that make practices coherent. At the same time reflecting on those forms nurtures one's ability to 'look at' and 'make judgements' about these forms. This 'looking at' facilitates their trans*form*ation.

(2) Different Contexts: Different Educational Questions and Solutions

It is now well documented and widely accepted that effective professional development models must engage with the complexity and particularity of each context (Darling-Hammond, 1997; Bruner, 1996, OECD, 1998). Indeed, OECD's recent publication *Staying Ahead* envisions a future where, increasingly, the work context of schools will become the main education site for teachers, and, where the content of education will be an engagement with problems of practice. The model of a school as a 'community of learners' is envisaged as the appropriate model for a changing and dynamic educational landscape. Coming from a constructivist premise, which views knowledge as dynamic, constructed and contextually bound, there is a growing convergence of multi-disciplinary research that recognises the power of the environment to "press for adaptation, the temporality of knowledge, and the existence of multiple selves" (Noddings, 1990, p. 12).

Cognitive and developmental theorists have highlighted the importance of the contextual surround of teaching and learning as integral elements in understanding learning environments (Bruner, 1986, 1996;Vygotsky, 1978, Rogoff, 1991, Wertsch, 1991) and in defining intelligence (Gardner, 1993). Wertsch (1991) has argued that all action including language is socio-culturally bound and mediated by the context. In other words, action, including teaching action, cannot be separated from the milieu in which it is carried out. This contextual complexity requires practitioners to be competent at 'reading' and approaching their sites in flexible ways. Indeed, Perkins (1998, p.40) defines understanding as "the ability to think and act flexibly with what one knows" and Perkins (1997) has identified the flexible use of resources as "the hallmark

of intelligent behaviour." He argues that understanding goes beyond knowledge and skills and is clearly linked to both thinking and action in utilising environmental resources. The uniqueness of each teaching context, then, is a primary mediating force in all educational endeavours and deep understanding of it requires ongoing inquiry structures. Disciplined inquiry into each context has the potential of generating new and diverse understandings of the problematics of teaching and learning. Reflective journaling, if guided and well scaffolded, can be such a disciplined inquiry strategy.

'Reading' an educational context stresses an attention and responsiveness to complexity; it discourages "the search for the simple and, above all, for the reductive" (Nussbaum, 1986, p. 69). Reading the context requires what Nussbaum calls a "hovering in thought and imagination around the enigmatic complexities of the seen particular" (Ibid, p. 69) and a commitment to stay with these enigmatics in service of deeper and deeper awareness and understanding. This 'hovering...' process recognises that the 'seen particular' is inherently problematic, since **what** we perceive is greatly influenced by **who** does the seeing and the cognitive structures and other resources available to the observer in making sense of, or understanding, the seen. Competent contextual reading is as true and necessary for the seasoned architect assessing the intricacies and possibilities of a building site or a doctor diagnosing a medical problem, as it is for the experienced teacher attempting to meet and understand the many competing needs of classroom life. It is the acknowledgement of this complexity and a concomitant commitment to deeper understanding through disciplined inquiry that is the cornerstone of reflective practice.

(3) Dispositional/Epistemological Considerations in Reflective Practice

Research illustrates that a teacher's attitudinal and epistemological disposition is an important mediating force in developing reflective skills and expertise in teaching (LaBoskey, 1993, Loughran, 1996, Lyons, 1998). Loughran (1996) draws on Dewey's (1933) concepts of open-mindedness, responsibility and whole-heartedness as being integral components of the reflective process. Developing these capacities or these habits of mind is integral to becoming a professional capable of self-evaluation, self-regulation, and seen to be accountable to all clients in their care. Loughran provides us with a useful definition of these attitudes:

> Being attuned to 'seeing' is being open-minded, seeing the problem situation in different ways is being responsible, and wanting to respond, whilst accepting the consequences of action, is to display the attitude of whole-heartedness (p. 18).

The reflective process asks professionals to attend to their own process of learning and to their own judgements. A professional then must have the capacity to be open to viewing teaching as ongoing inquiry, and to take responsibility for that learning.

How a person frames knowledge is also critical to a professional's teaching practice in the classroom (Belenky, Clinchy, Goldberger, & Tarule, 1986; Belenky, Bond, Weinstock, 1997; Brooks & Brooks, 1993; Stanton, 1996). Belenky and her colleagues in *Women's Ways of Knowing (WWK)* identified five epistemological positions that influence how a knower perceives the world of knowledge and learning. These knowledge positions are those of: *silence, received, subjective, procedural, and constructed knowing.* These epistemological positions either facilitate or limit one's capacity to engage with thinking about and knowing the world[30]. This research also documented how teaching practices were vital to developmental growth in both adults and children. It has enormous implications for the world of teaching and learning and for the effective design of development work for all professionals. As Stanton (1996) states in reflecting on her own teaching in Higher Education, this research on human development places *inquiry* at the core of effective teaching:

> *I choose the term inquiry to recognise that at the core of WWK's message are the simple but powerful questions:* ***Who is the learner? What does s/he bring to the learning process?*** *This provides an important counterbalance to the tendency of higher education to give centre stage to disciplinary content, with the unspoken assumption that anyone who tries hard enough can learn (p.35)*

The questions that Stanton poses are central to reflective practice and constructivist classrooms. Clearly, if a teacher views the world of knowledge from a *received* knowledge perspective, that is, that knowledge is received uncritically from authoritative sources, s/he will unquestionably view knowledge as static and authoritative, and will uncritically conceptualise his/her role as one of transmitting a body of knowledge to the next generation of students. There will be little concern for students' interpretations of this knowledge, or of the exploration of knowledge from different perspectives. The world will be viewed in dualistic, reified terms rather than multi-layered and fraught with uncertainty. This *received* knowledge perspective runs

[30]Briefly to summarise these epistemological positions: a silent knower is unaware of herself as a thinker and knows the world through concrete experience, a received knower believes knowledge is acquired by uncritically receiving from authoritative sources, a subjectivist knower believes knowledge comes from her own internal cues and 'gut' reactions, a procedural knower recognises different sources of knowledge and can use different academic frameworks, a constructed knower synthesises the above positions and believes knowledge can come from all the above sources and believes systems of knowledge can be examined and transformed in the examination.

counter to the development of critical thinking skills that educators the world over have been concerned with adopting in classrooms in a rapidly changing "knowledge society" (King & Kitchener, 1994; Halpern & Associates, 1994; OECD, 1998). Knowledge and access to the skills of knowledge generation are being viewed as the new cultural currency in navigating and succeeding in a global world. Therefore, new educational outcomes must become central to educational endeavours at all levels. Indeed this concept is central to multiple intelligences theory and TfU. Viewing students as knowledge resources and knowledge generators is a crucial starting place, as are practices that nurture and support learners to develop more complex knowledge positions and structures. Traditional structures of education where the emphasis is on 'content coverage' educates for received knowing primarily, and is therefore out of step with current educational research on best practices.

Belenky, Bond & Weinstock's later work (1998) extends this research further and focuses on the impact of relationship, conversation, context, and leadership culture on development. For example they explore mother-child problem-solving conversations, differentiated by the mother's epistemological position, and demonstrate vast differences in the nature of the conversations and the developmental opportunities created for both mothers and children. Mothers who viewed their conversation with their children in an exploratory way and could help their children talk about the process of the task, as well as help them view the task from different perspectives, helped their children become adept at problem-solving:

> Mothers coded as silent and received knowers focus on completing the task with minimal talk and minimal involvement of the child. Mothers coded as subjective knowers encourage children to be expressive, but they struggle to not take over the completion of the task. Mothers coded as procedural knowers engage their children in a conversation in which they consider the nature of the problem, generate alternative procedures, and share in completing the task together. These mothers experience the dialogue with their children as stimulating their own thought. (Goldberger et al, 1996, p. 285)

This work and the body of work that it has spawned (Goldberger et al, 1996) points to the importance of placing educators' relationship to knowledge construction at the centre of developmental work, and points to the primacy of dialogue, both written and oral, as a means of generating developmental opportunities. It also demands that we attend to the learner's needs in a much more systematic way and that educators develop programmes that provide enough scaffolding for development of thinking to occur.

(4) Cultural Context as a Mediating Force:

> Irish schools are locally managed to an unusual degree but insofar as the exercise of specific powers are concerned, the Department of Education functions like a classic, highly centralised bureaucracy (p. 36, OECD, 1991).
>
> Ireland desperately needs thinkers capable of synthesising a variety of experience. Unfortunately her institutional structures force most of her best thinkers to think sectorally. The demand for integrated thinking has scarcely existed (p. 634, Lee, 1989).

The above two statements characterise the dominant culture of Irish institutions as bureaucratic, hierarchical, and centralised. The OECD (1991) report highlighted the classically bureaucratic nature of Irish educational structures. As traditional hierarchies, knowledge and practices are accepted as given, pre-defined, static, and organised sectorally. Traditional organisations have developed few lateral co-ordinating structures, or feedback loops, where practitioners can share knowledge and dialogue across sectors, disciplines, and levels. Hierarchical organisations have few resources for managing such an infrastructure where uncertainty and change are viewed as normative rather than dysfunctional. In traditional organisations, following rules and procedures are valued over inquiry or knowledge generation. Lateral co-ordinating structures are interpreted as dangerous for hierarchical organisations since information and knowledge streams that run vertically are easier and simpler to curtail and control. Traditional systems are often more concerned with holding and preserving privileged authoritative positions, as fixed and static, within a clearly defined class based society, than with openly engaging with contextual challenges that press for ongoing organisational change and review. When traditional organisations are challenged sufficiently their response is always a piecemeal, fragmented one. For example, when traditional organisations are challenged by marginalized groups to transform or address issues of gender or class, their response is invariably in the direction of "adding on" an Equality or Access programme that deals with these issues. The thinking culture of the organisation at large does not change, nor does it acknowledge the need for ongoing organisational learning to occur in order to integrate new modes of thinking or acting into the mainstream culture. Therefore, the programme "addendum" is invariably primed to barely puncture the prevailing cultural mindset. Rarely is it sufficiently resourced to counter the prevailing cultural ethos of the organisation.

I am arguing that traditional conceptualisations of learning, that are fixed within this mode, run counter to reflective cultures which are challenging for traditional organisations, since reflective cultures demand a dialogical infrastructure with inquiry at

the centre. In other words, in reflective cultures all practices are open to ongoing review and evaluation, including those positions authored by tradition and precedence. In the same way, traditional forms run counter to research on best educational practices that place active learning, dialogue, and the co-construction of knowledge in the foreground. In order to engage with the complexity of ongoing social and educational problems and a dynamically changing context, as Joe Lee argues above, we need thinkers "capable of synthesising a variety of experience." In other words, we need cross-sectoral thinking. Reflective learning cultures sponsor such a thinking disposition.

Cultural change and societal change require both integrated thinking and a qualitative shift in how we approach knowledge, thinking, and institutional forms. Ireland, in tandem with the world, is currently undergoing fundamental social, political, economic and cultural shifts that are requiring new and more challenging forms of human being. This new unfolding society is calling on all institutions, including large corporations, government agencies, communities, and educators from all levels, to restructure their organizations to adequately and effectively meet new and complex demands. The workplace context is being re-organized in such ways that simple transfer of knowledge is no longer adequate. Adult workers are ill prepared for this new knowledge society unless they have developed the capabilities to openly engage in problem solving and in generating new understandings of this more complicated context. Workers can no longer rely on retaining the same job for a career span with the same employer. Instead, workers' roles and job descriptions are constantly in a state of flux and change, and largely dictated by corporate downsizing, restructuring, or global trading. It is now recognized that all workers will undergo five major career reinventions or changes in the course of a working life, which will demand substantive re-training. Even if a worker is 'lucky' enough to hold the same job during his/her lifetime with the same employer, the job profile will radically change and will place new demands for change and accommodation. All of this change is demanding a lot of human beings in terms of cognitive development, emotional maturation, self-management, and the ability to apply and translate expertise into new and changing contexts.

In the western world, the spotlight has been shone on educators at all levels to re-consider and re-think the education project in order to meet this dynamically changing context. A more sophisticated public is requiring a partnership approach that demands skills of negotiation and re-negotiation. Accountability, documentation, and transparency are constructs that rear their heads time and time again. It is clear that the teaching profession and educators at all levels must actively engage with these new societal demands as legitimate outcomes of a more educated, advanced, and complex democracy. In the US there has been a concerted effort to improve the quality of

teaching standards and teacher education. The creation of the National Board for Professional Teaching Standards (NBPTS) in 1987 has been one such engaged response to these societal demands. This professional board has moved away from traditional evaluation practices that focused largely on teacher directed models of learning. The NBPTS has promoted much cross-sectoral discussion on meaningful teaching standards, and has developed performance based assessments that can best capture the complexity of effective teaching. The NBPTS's assessments, mainly portfolios, are based on teacher reflection and learning from practice, and are embedded in a lifelong learning approach to professional development. The NBPTS identify the following five propositions as integral to accomplished teaching:

1. Teachers are committed to students and their learning;
2. Teachers know the subject they teach and how to teach those subjects to students.
3. Teachers are responsible for managing and mentoring student learning;
4. Teachers think systematically about their practice and learn from experience;
5. Teachers are members of learning communities. (Weiss & Weiss, 1998)

A similar discussion has occurred in the area of pre-service accreditation. The Interstate New Teacher Assessment and Support Consortium (INTASC) has developed a set of 10 core standards, based on the above propositions, that define knowledge, dispositions, and performances essential for all beginning teachers (INTASC, 1992). Thirty-three states are actively involved in translating these core standards into discipline specific standards. Largely these assessments are being translated into portfolios modelled on NBPTS. In these portfolios teachers are asked to demonstrate how their teaching relates to their students' learning. Reflection is at the core of this work.

Similarly in Ireland a societal stocktaking and reflection has occurred with a focus on the clarification and renegotiation of our educational aims and purposes. There has been a major investment in reconfiguring first and second-level curricula in our schools. These changes are demanding different management, personal, professional, and pedagogical skills of professionals in the field. Many policy documents have been produced: Green and White Papers on Education, The Green Paper on Adult Education, An Educational Convention with all the educational partners, The Teachers Council Report, and recently the Education Act, 1998. There is a growing agreement on the need to radically restructure our education system to create more integrated approaches to deal with problems of social cohesion and the disengagement of a large minority of students. There is also a recognition that our current structuring of teacher education inadequately prepares our teachers for this changing, complicated context. To this end

in late 1998 teacher education has been under scrutiny when an expert advisory committee on first and second level teacher education was set up by the Minister of Education and Science, Micheal Martin.

This changing cultural context is recognised by the Report of Steering Committee of the Teachers Council (1998) in the following quotation:

> The changing and increasingly complex nature of the societal, community and school settings in which teachers must be competent to operate today has broadened their role significantly. They find themselves unavoidably drawn into dealing with the effects on pupils of family breakdown, substance/alcohol abuse, physical/sexual ill-treatment, and unemployment. This changed situation makes particular demands on teachers' professional knowledge, personal and pedagogical skills, powers of adaptability, and decision making ability (p. 5).

No longer can teachers rely or call on the old and trusted societal scaffolds of the church, family, and other community institutions that made their work cohere as educators in an earlier era. These community institutions that heretofore provided a supportive backdrop to the work of education are largely absent. No longer can teachers rely on their own pre-service learning or life experience as an adequate window within which to view and understand an increasingly multi-cultural and diverse student population. No longer can teachers survive without substantive opportunities to re-train and re-invent their practice in order to adequately respond to, and meet, the complexity of student needs. Increasingly society is requiring educators, to re-think and re-vision the kinds of learning environments that will produce creative, generative, critical thinkers who have the ability to develop and grow in tandem with the growth of society; critical thinkers who can adequately 'read' and meet the needs of diverse, dynamic contexts and survive in the face of multi-faceted competing demands; critical thinkers who will not succumb to the largest and most vociferous lobbying group or newest educational fad, but will be able to generate their own understanding of the educational principles underpinning our educational system. These thinking teachers will have grappled with the philosophical, moral, developmental and political principles that underpin their work as teachers, and will understand the implications of these principles for their practice in schools. These underpinning principles namely the "***promotion of quality, equality, pluralism, partnership and accountability***" (Charting our Educational Future, 1995, p. 3,) should be touchstones for all educators.

Indeed, as stated in the above document, the education project is about teaching people to participate fully in their communities:

> Education **empowers individuals to participate fully** and creatively in their communities. Time spent in education is not just a preparation for life, but is also a lengthy and important period of life itself. For this reason, the importance of collective, as well as individual, development is a key educational aim. Increasingly in the future, continuous education and retraining will be a feature of people's lives, **with initial education forming a foundation,** which will be built upon regularly. The education system should help to build up and empower communities economically, socially, and culturally (Ibid., p. 10).

A close reading of this document poses a set of challenges and questions to educators generally. If we were to assume that this document is not merely a rhetorical device, used to soothe our anxieties about what we should be doing, but one that challenges us to re-think teacher education, a number of interesting questions arise for our consideration. To consider these questions creatively and generatively, we may have to challenge or shift our own frames of understanding, those cultural reference points that are always constrained by historical precedent, tradition, biases, and vested interests:

> (1)"What kind of professional education programme will produce teachers who have been *required and taught to think adequately* about issues of quality, equality, pluralism, partnership, and accountability?"
> (2) "What kind of professional education programme *empowers teachers to participate fully* in their educational experience?"
> (3) "Since we can assume our pre-service teacher education programmes will *form the foundation that teachers will build on regularly*, what forms of mind, or thinking capacities, or building blocks to we want our new teachers to have"?

It is clear that we need to develop ways that professionals can integrate these key underpinning principles into every aspect of their work as professionals and thus change the organisational cultures of schools. Reflective practice is one such strategy for exploring the meanings of these principles and how these principles can be translated to different contexts and sites. This is a necessary developmental step that is often overlooked in curriculum-driven approaches to change. It is also clear that 'adding on' programmes in a piecemeal fashion will not meet the developmental needs of schools or educators in this time of cultural transition. Such active engagement needs a structure where a lifelong learning disposition is nurtured and coached.

Kegan (1994) argues that the demands of modern life present us daily with ongoing problems that require complex thinking and critical responsibilities. In order to prepare adults to critically meet their responsibilities, adult education programmes must be centred on "the transformation of minds." Kegan portrays modern culture as a "school"

in which the challenges of our many roles - as parents, partners, workers, learners, and citizens in a diverse society - make up the curriculum. In order to navigate the diverse curricula, which this cultural school bombard us with on a constant basis, we need to have developed life-long learning skills. According to Kegan the "hidden curriculum" of this modern school demands higher cognitive functions that facilitate adults to critically "look at" and "make judgements" about these cultural expectations. This higher cognitive function is reflective thinking. Without such an ability adults are held hostage to, or regulated by cultural demands that are uncritically received and that may run counter to their own principles. In commenting on programmes that support a lifelong learning approach, he has underlined the importance of the ability to reflect on our embeddedness in different epistemological and cultural contexts. According to Kegan, our embeddedness in a particular context makes it difficult for us to see beyond it. The ability to be reflective nurtures our ability to *dis-embed* from this cultural *embeddedness,* thus committing us to the ongoing examination of the forms of mind that make our perception of the world seem coherent and normative. The examination of these forms of mind is in service of their ultimate trans*form*ation:

> We have barely begun to understand what is required to support lifelong learning…The majority of even the most advantaged adults do not construct reality in ways that would enable them to master the hidden curriculum of modern life…The best programmes [that support lifelong learning] are moving away from a strictly technical, skills oriented, information downloading model and are instead asking what supports real **transformation of mind** (Harvard Alumna Bulletin, June 1997).

This reflective ability is nowhere more important than in the area of teacher education.

A burgeoning and important research pool on teacher education and professional development has clearly documented the disjunctures between teacher knowledge and teacher practice, between content and assessment modes, and between the life-worlds of education sites and the life-worlds of work. There is a growing consensus about the need to significantly reconceptualize and reframe teaching and learning to be primarily concerned with the development of thinking rather than with acquiring knowledge; with helping students to acquire deep understanding of disciplinary knowledge rather than rote learning; and with helping students apply this understanding across disciplines, in order to problem-solve in the real world. There is a consensus that identifies the importance of reflectivity for the development of expertise in teaching and learning. However, there is little consensus on how reflection is defined (Lyons, 1999)[31] or in putting forward a coherent multi-level learning model that promotes and develops

[31] Personal Communication.

reflective teachers (Snoek, 1999). This professional literature also documents that student teachers or practitioners inhabit and work in environments that run counter to reflective teaching (Darling-Hammond, 1997, Little 1982, Johnson, 1990) and indeed to adult functioning (Barth, 1980, Kegan, 1994).

Research on expertise in teaching illustrates that experts have reflective capacities that help them understand their interpretations and to view their experience in multi-dimensional ways (Darling-Hammond, 1997). Experts are rarely satisfied with stereotypical constructions of students or their learning. From their reflections, experts are able to draw on a rich repertoire of situated knowledge that helps them design interventions that uniquely meet their students' needs. From this repertoire, they have at their disposal a range of strategies and skills that can be flexibly configured and reconfigured if necessary. Experts have developed capacities for making sense of their actions and decisions in classrooms, and are able to provide a rich rationale for these decisions and actions.

Reflective practice, as conceptualised in this chapter, comes out of this frame and underscores the importance of viewing learning as an ongoing dialectical process between thinking, speaking, and action. The reflective process makes visible for the practitioner their views of the world and create opportunities for more expanded ways of 'seeing' the world. Ongoing reflection, either journaling or conversational, provide a context for uncovering the frames a practitioner uses to make sense of that seeing. It gives the practitioner the opportunity for framing and reframing in order to adapt to the context, to understand more deeply, and to develop lifelong learning habits of mind. As a result the practitioner develops new more expanded cognitive structures available to 'see' again, creating a new cycle of learning.

In this chapter, I will explore the concept of reflective practice with these four mediating forces as a backdrop, and discuss what a reflective practice approach implies for professional development models generally. I will assess how the reflective journal can be used as a powerful personal and professional development tool. I will draw on two sources of data involving reflective journaling with two different groups: the MI project teachers (1997-8) and HDE students (1997-1999) to illustrate the themes and cognitive schemata that teachers bring to bear on their work of teaching. I will argue that reflective cultures are necessary if we are to meet the dynamic and complex needs of a vastly changed and changing society. As envisaged in this chapter, a reflective perspective adopts a critical one, since it is constantly questioning the routinized, habitual procedures of the status quo. Indeed, a reflective stance runs counter to these

organisational forms, since it is constantly exploring the invisible assumptions that make routinized behaviour coherent and plausible.

Reflective Journaling: Building a Personal-Professional Bridge.

For the purposes of the MI project in University College Cork, the reflective journal was introduced in various ways. It was introduced as a structure to "wonder about what one is learning" (Presentation: December 8, 1997), and as a way to construct one's rationale for good teaching and learning, that is, "the professional ground and knowledge base on which one stands as a teacher" (March, 2, 1998). A clear theoretical rationale was presented to teachers. It was introduced as a way toward documenting the complexity of classrooms and giving us "particular glimpses of classroom life." (Presentation: 2, March. 1998). Essential to the definition was that teachers' wonderings should be open-ended, questioning, and problem-posing. Participants were encouraged to pose questions about their teaching and to explore their own teaching narratives and biography, since it was argued that our own biography as learners greatly influences our attitude and approach to teaching and learning. They were particularly encouraged to trust their own hunches about what to focus on - going for those questions they found compelling and puzzling - since these very questions are often the most interesting and sustaining. In addition, all participants were presented with a hard-bound journal!

The rationale for the reflective journal's inclusion in the MI research project was essentially that it would provide an exploratory reflective space for participants to explicate their living educational theories, and how these theories informed their practice in applying the MI theory, and later Teaching for Understanding framework (hereafter, TfU). It was recognised by the author that diverse classroom contexts and the diversity of meanings that teachers brought to such an endeavour held much possibility in generating rich data on the diverse experiences/meanings in applying this theory and framework to the Irish context. This diversity would then inform and enrich the kinds of conversations that would ensue during the course of reflective meetings. This was the primary goal of the reflective journal in the MI project. The hope was that the reflective journal would uncover and acknowledge what teachers were learning as they experimented and explored MI and TfU in their classrooms. The reflective journal also was a structure that acknowledged the experiential situated knowledge base of teachers as legitimate and central to classroom change. Many researchers have criticised traditional research methods that have silenced teachers' voices and knowledge. Teachers have been constructed by traditional research as the receptacles for knowledge created by researchers outside the school classroom (Cochrane-Smith & Lytle, 1992, Gitlin et. al.,1992, Hollingsworth, 1992, Weiler,1988). The reflective journal

assumes that teachers' practical experiential knowledge is essential to understanding the complex act of teaching and learning.

In Year 2 of the MI project, the focus shifted from exploring multiple intelligences theory and its application to Irish classrooms to the application of a TfU framework in Irish classrooms. The TfU framework provides a teaching model for teachers that place students as the *subjects* and knowledge generators of the classroom. The student is viewed as an active meaning-maker, interacting with the world, and constructing their own meaningful knowledge and understanding of the subject at hand. The teacher's focus is on creating learning opportunities for students to construct that understanding. A similar approach was necessary for project participants. The reflective journal would provide a parallel experience for teachers with the teacher, as meaning-maker and generator of knowledge, becoming the subject rather than the object of the project's work.

Borrowing from the TfU's central organising theme of overarching throughlines or goals, the throughline of reflective practice is the development of the practitioner's understanding of their work as teachers. Integral to this is the development of a teacher's sense of her own agency, purpose, and responsibility in constructing teaching and learning opportunities for her students and for herself. The reflective journal requires that the teacher become aware of her own *agency* in relationship to her own learning and development as a professional. By agency I mean the consciousness of oneself as an agent in the world, actively constructing meaning in one's engagement with reality. This sense of agency is central to taking responsibility for one's actions and for defining "who we are, what we think and what we do" and is central to understanding active learning at all levels:

> The self- as- agent, as the basis of will and volition, can be thought of, in part, as a generative structure that is goal directed, purposeful, or teleological in nature. Out of this generative and self-determining structure, our experience of being is supported. It may not be scientifically observable, measurable or predictable. It does, however, consciously or unconsciously define who we are, what we think, and what we do. (McCombs & Marzano, 1990, p. 6)

Since understanding is the primary creed and purpose of TfU in classroom teaching, the reflective journal would provide project participants with the experience of tracking ongoing self-understanding and self in relationship to professional questions and concerns. Additionally, in becoming active in identifying what was important and meaningful for them, participants would develop a consciousness and awareness of

themselves as key actors in the classroom context. It would provide a forum for project participants to explore the epistemic surround of his/her interpretations of the teaching and learning world, those tacit constructions that have been hidden from view and public scrutiny. In Shulman's terms it would make the "tacit explicit." This consciousness and active engagement is an empowering process, and is what philosopher Maxine Greene calls the "wide awakeness" that is necessary in "*reflective and tonic living, in overcoming automatism, wordlessness, and passivity" (*p. 326, 1982).

With the MI project teachers it was clear that the reflective journaling sessions alone were inadequate in providing such a scaffold. [32] The sessions introduced toward the end of the MI research project did not allow enough time for teachers to develop the expertise and confidence necessary for such a project. Nor was there enough time to attend to the meanings teachers would bring to sharing their work publicly as an ongoing "works in progress." The questions that emanated from those sessions focused on technical aspects of reflective journaling rather than substantive concerns. For teachers to engage wholeheartedly in this endeavour there needed to be more support, modelling, and exemplars of practice. As one MI project teacher who had engaged wholeheartedly in reflective journaling lamented:

> I really enjoyed the reflective journaling. But I felt, the ball was thrown in the court and we never got time to play. Before we knew it, the project had moved on to another topic (MI teacher, October, 1999).

This comment made me question how many times teachers are introduced to professional development strategies and interventions without adequate time and resources to develop understanding in dialogue with their own rich practical knowledge base. It may explain why teachers come to be disenchanted and resistant to school innovations. For the reflective journal to be transformational in this project, it would have been necessary to introduce it at the beginning of the project or to supplement the main sessions with workshops and a smaller forum for teachers to share work.

Although I offered strategies for writing the reflective journal they were left very open-ended. From the outset it was made clear that the reflections should be experimental,

[32] I introduced reflective journaling through a series of presentations and reflective conversations 1997-98 (December, 1997; 22 January, 1998; 2 March, 1998), a relatively short time-frame within the project and therefore could be viewed as an project 'addendum.' There was no time to guide and mentor project teachers' reflections. As I am arguing in this paper such mentoring is essential. It would have been interesting to have the resources to work closely with a small group of MI teachers on an ongoing basis to develop this work further. Paradoxically, my sessions with teachers barely 'covered' the curriculum of reflective practice, an approach I am critical of in this paper!! However, my involvement with participants was limited and the research design did not include such developmental work.

conversational, focused on documenting teachers' thinking about teaching, and the development of that thinking. Suggestions were made around free writing, meanderings on paper, documenting one's ideas for class, documenting one's thinking about a problem or ongoing concern, timed writing sessions, evaluations of MI classes, and so on. I suggested that a reflective journal could be as simple as spending a few moments looking back at the end of a teaching class/day, and writing down the impressions or events that are left about a class or the day as a whole, and what is in the foreground of one's consciousness. Or, reflection can be as complex as exploring one's teaching philosophy through the careful documentation of a teaching/learning dilemma or focused question. I argued that embedded in one's writing are the values, beliefs and assumptions that undergird one's teaching. To uncover one's assumptions, values, beliefs; those taken for granted beliefs about the world and our place within it, are important *entry* points toward self-understanding, self-development, and, as Brookfield (1995) argues is "one of the most challenging intellectual puzzles we face in our lives" (p.14). Facing this intellectual puzzle is particularly important for educators whose judgements and beliefs can have a significant impact on students' lives.

Furthermore, I suggested that journaling would provide participants with an unfolding narrative of what they are interested in, and what they are concerned about in their work as teachers. In order for this introspection to be useful as a professional tool, it must become a disciplinary habit of mind, attended to on an ongoing basis, and linked to action in the professional context. Essential to reflective journaling as a strategy for building a personal-professional bridge is this ongoing disciplined attention, and the concomitant confidence that the emergent themes and patterns emanating from one's own thinking about one's practice are worthy of such disciplined attention and inquiry. However, to take such a step is a monumental one for teachers who rarely see themselves as theory or knowledge generators. Indeed rarely do educational structures communicate such an expectation to them. Essentially, over time the reflective journal becomes a dialogue with oneself, an *intra-professional* tool, where one begins to see and understand patterns of behaviour, and routines heretofore taken for granted. These taken-for granted routines can be explored in order to uncover one's theories-in-use. It is particularly useful in re-evaluating if one's theory-in-use is congruent with one's espoused theories. In this way, the interpretative lenses we use to perceive reality become more visible and open to conscious regulation. Seeing these patterns and interpretations is a necessary step toward understanding or changing them.

Distance from an action has the potential to allow one to see it from more angles and perspectives, thus expanding one's repertoire of strategies and ways of seeing. It has the potential for developing the life-long habit of mind that does not presume that

one's perspective is the only or indeed the best perspective one can take on any given event or teaching experience. It has the potential for the teacher to become both the *observer and the observed*, the subject and object of the inquiry:

> The contents of a journal are more comprehensive than those of a log or diary. It is a reconstruction of experience and, like the diary has both objective and subjective dimensions, but unlike most diaries, the writer is (or becomes) aware of the difference... Like the diary, the journal is a place to "let it all out." But the journal is also a place for making sense of what is out... The journal is a working document... In a journal the writer can carry on a dialogue with various dimensions of experience....This dialogue between **objective and subjective** views, between description and interpretation, allows the writer to become more accepting and less judgmental as a flow of events takes form. Actions interconnect and take on new meanings. [It] is a tool for personal and professional growth, "an instrument for recording and then evaluating...a means of reflection ..its essence is subtle movement and change... a collage of life in motion...." (Progoff 1975. 16-21; Quoted in Holly 1989, p. 20).

In this way, the reflective journal becomes a self-authored text that becomes a source of new knowledge, power, and authority for the teacher. The author is responsible and active in choosing what to focus on and what is worth examining. Thus, the reflective teacher is engaged in a process of developing the kind of rationale that Shulman talks of above – in defining a set of critically examined core assumptions about why s/he does what s/he does in the way s/he does it- an essential process toward self-understanding and professional status. A critically reflective teacher understands that "considerations of power undergird, frame, and distort educational processes and interactions" (Brookfield, p. 9). The reflective journal begins to uncover these processes and to bring to voice what Grumet (1998) calls "*the subjugated, subjective knowledge"* of personal connection, subjectivity, and the coming to know of teachers, in the particular surround and complexity of classroom life. In other words, reflective teaching by its nature is a theoretical act, that is, one has to act and make webs of connections between what one teaches (content area), what we know about what we teach and how we know what we know, (our epistemic perspective), and why we teach as we do (rationale).

As stated above, I left the "*how to do*" the reflective writing very open and defined loosely. I provided no exemplars or models of what reflective writing was. My thinking at the time was to move away as much as possible from prescribing what the content or method should be, since I was very aware of the pull to adapt the reflective journal to a standard, uniform approach. As much as possible I wanted teachers to explore diverse

ways of using this reflective journaling in the hope that all teachers would find a strategy that suited their needs. In retrospect, I underestimated the need for guidance and support in this exploration. I underestimated the urgency of what I then interpreted as "technically oriented questions" that focused on method, content, length, etc. My own belief that learning was too tightly prescribed in Irish education greatly informed this decision. In hindsight, I feel this was a misconstruction on my part. I now believe that these "technically oriented" questions deserved a more engaged response given that few people had experienced this kind of educational experience. It would have been most useful, indeed necessary, for MI teachers to have many experiences of doing reflective writing together, sharing these reflections, and to have responses to their reflections in order to guide their exploration of emergent themes or questions. In the same way, participants, in order to take the risk of sharing reflections publicly, needed more exemplars or models of reflective journals. This is currently my practice with my own tutees in the HDE.

During sessions I made a distinction between 'exploratory' writing and 'presentational' writing. The latter is the most familiar form in schools and is focussed on knowing and certainty. The former is often ignored and focuses the writer on 'not knowing' and on one's own process of coming to know. More than anything else, I emphasised the reflective journal's purpose as focusing the teacher's attention on his or her own process of learning and coming to know. In so doing, I hoped the journal potentially could assist the learner to describe, name, and identify the *epistemological* landscapes that he/she inhabits and that informs his/her approach to the world of teaching/learning. Problematising what is legitimate knowledge in teaching and learning, and who has the power to generate knowledge, was offered as an important and ongoing question on which to reflect. Therefore, I acknowledged and encouraged teachers to reflect on the political nature of journaling, of claiming authority in identifying educational questions and concerns, and in sharing these concerns publicly.

Since dialogue with peers is an essential component of active learning and TfU, I introduced the concept of 'critical friendships' as a suitable structure for teachers to begin a learning conversation with a peer. This would provide an inter-professional tool for participants. The rationale was that this framework would supplement the main sessions since time was limited, and since participants came from different geographical sites. Additionally, it came from a belief in the power of collaborative learning, and a belief that the practice of sharing and explaining our work as "works in progress" heightens the sense of inquiry, sustains the inquiry, and expands the ways we view our work. Also, it would contradict the isolation that teachers feel in their work, and furthermore, would contradict the prevailing belief that reflections were private

concerns. I urged teachers to set up a critical friend dyad with a peer, where each teacher would commit to meet on a regular basis to discuss and share their reflective journal entries and to give feedback to each other. Bringing this exploratory thinking about teaching into the public domain was assumed to be essential to the process since as stated above teacher talk is largely constrained by the structural arrangements of schools. Creating and sustaining an ongoing dialogue between peers, in order to begin a process of articulation or 'coming to voice' was seen as essential to the reflective process, insofar as dialogue with colleagues promotes meta-cognitive awareness through probing personal beliefs, values, and judgments. Colleagues' questions, feedback, interpretations, and support become a mediating force that sustains the practitioner to probe deeper, describe in more detail, or collect more information in order to explain a particular problem or question better. Preliminary research shows that project teachers rarely used such a structure. In hindsight, in a culture that does not support teachers to take their practice concerns or dilemmas seriously, or at least to voice their concerns in the public domain, there needed to be far more exposition and modelling of the educational value of such critical peer friendships. [33]

Giving and receiving feedback is central to the praxis of critical reflection as is the ongoing presentation of one's learning process including the personal meanings and values we ascribe to actions. Developing one's skill to become an active empathic listener and developing specific interventions that adequately mirrors/witnesses another's process for the purpose of promoting further growth is of paramount importance to this reflective conversation. These skills are central (although I would argue subjugated) to effective teaching at all levels. My ongoing research with HDE students on this aspect of reflective practice illustrates that students have rarely experienced an education where their learning efforts were viewed as 'works in progress,' and where they received substantive critical feedback on their progress in order to develop further. Therefore, HDE students have few models or cognitive schemata for understanding the importance of feedback and response to students. Often, students report on their experience of feedback in education as being primarily evaluative, with little explanation of the meaning of the evaluative grade/mark, or how the assessor or grader came to this judgment. In hindsight, there needed to be much more attention paid to the meanings teachers brought to reflection, reflective journaling, feedback and presentation of ongoing learning.

[33] Currently, I am exploring the cultural issues that impact on sharing one's thinking in the public domain since I believe this is particularly difficult for Irish students. This has been a recurring theme throughout my research on reflection. Without structures that invite, expect, require sharing of ongoing reflections, students are very reticent about sharing entries.

In the HDE programme (1997-99), nine focused reflective journal entries were designed to focus students' attention on specific teaching/learning concerns and as stimuli for reflection. Focusing questions were provided on substantive content areas that asked students to reflect on their values, biography, classroom management, and self-evaluation. The goal of reflection was to develop reflective skills as well as a heightened awareness of the complexity and integral contradictions of teaching and learning, and to develop a habit of mind that leads the student teacher toward an inquiry oriented approach to their teaching site. In addition, the goal was to heighten students' awareness of how their beliefs, values, and professional/personal commitments influence professional judgments. This "awareness" (Dewey, 1933) or "awakeness" (Greene, 1986) to the lived present and the inherent contradictions embodied in all practice is a necessary precondition for ongoing professional growth and learning. From research on the reflective journal it became clear that student teachers had an uneven experience of support and expertise in engaging in reflection.

In order to develop a more integrated mentoring approach in the HDE programme, a TfU approach to history and geography teaching and a reflective portfolio assessment project was designed and initiated by the author in 1998-99. A group of approximately 60 HDE history and geography methods students were introduced to TfU and for their final assessment they were required to compile a subject based portfolio based on teaching practice learning. Students had to compile a professional portfolio that included a philosophy statement, five reflective entries on selected artefacts from their classroom practice, and a conclusion statement.[34] From the beginning of the year students were required to collect one teaching artefact per week and to write a reflection on its meaning. Students were required in tutorials and lectures to present their ongoing reflections on concerns, questions, or difficulties they were encountering. Integral to this effort was to create structures within the programme for students to engage actively in their teaching site, and to present their work as student teachers as 'works in progress' to peers and tutors. This would allow adequate feedback on their work, and more importantly it would allow tutors and lecturers to give direction on how to further develop emergent ideas/questions into an action research approach to their teaching site. Central to the design of the project was the recognition that student teachers needed a reflective space to engage with teaching and learning questions in a setting that assumed teaching was an inquiry driven discipline. Although students resisted presenting these reflections initially, they eventually rose to the expectation. A much more active engagement and ownership of learning was reported by all involved.

[34] In 1999-2000 all HDE students are compiling a reflective portfolio.

This portfolio initiative was supported by the development of a history and geography reflective team approach. Tutors and lecturers involved with history and geography methods students were invited to participate in a study group that focused on TfU and portfolio assessment. This team met regularly to share their experience and reflect on their teaching and learning goals.[35] In addition, key readings were selected by the author, studied by the group, and integrated into meeting conversations. These meetings were invaluable in helping both tutors and lecturers to "sing from the same hymn sheet," which became a constant mantra during these meetings. In addition, the author as coordinator of the team kept in touch with team members between meetings with "memos of understanding" which summed up the main conversation points, issues, and understandings of the meetings. Heretofore, there were no institutional structures for such meetings or reflections. Lecturers and tutors rarely met and rarely had time to share substantively on their teaching or tutoring goals. It allowed both lecturers and tutors to articulate and clarify their teaching goals. Furthermore, it supported all to engage in active inquiry on our own teaching practice, thus allowing us review and fine-tune our practice and learn from students' efforts. From the beginning, team members acknowledged their need to learn how to support student teachers in this effort.

The above activities are at the heart of reflective practice as envisaged here. The reflective journal/portfolio is the backdrop to this meta-cognitive activity and provides the practitioner with a structure to track a particular question or concern in order to understand it more deeply. It is a strategy that deeply acknowledges and recognises that teaching is uncertain, complex, and deserves ongoing inquiry. Reflective journaling is not an end in itself rather a point of departure that charts one's position in relationship to the larger educational conversation happening in the world of teaching and learning. In sum, the journal will become transformative only if it becomes part and parcel of the substantive conversations teachers engage in about their practice in service of improving their practice.

Reflective Journaling: A Coming to Voice

> *You get to know what you know even if you never knew you knew it. It helps you explore yourself (6th class pupil's reflective journal, quoted by MI research teacher).*

This extract from a sixth class pupil's reflective journal captures the essential purpose and nature of the reflective process. The reflections and learning of the teacher of this

[35] I would like to acknowledge this team namely Domnall Fleming, Marie Lucey, Anna Kirby and Bridget Deane, all part-time members of the Department of Education, who gave generously of their own time in engaging with this project.

pupil led him to experiment with the use of reflective journaling for his sixth class pupils in exploring the meaning of the Sacrament of Confirmation. He was amazed at the level of these boys' reflections, and how these reflections could inform his own teaching and his understanding of the students' thinking process. One of the most interesting and encouraging results from my research on teachers' engagement with reflective practice is how often teachers begin to develop parallel experiences for their students in their own classrooms. Teachers experiencing their own learning process and viewing themselves as learners, begin to transfer this perspective in the way they view their own students. Above all else, the self-authored text of a reflective journal, encourages a new curiosity about the process of learning and the meaning-making of students. It also encourages teachers to dwell on the "small moments" of classroom life that can greatly impact on the overall learning climate of a classroom. This student's statement "*You get to know what you know"* underlines the vast resources of knowledge that students bring to learning that are not honoured or recognised in traditional classrooms engaged in a knowledge-downloading model. And, "*even if you never knew you knew it"* mirrors the well-recognised concept that human beings know and act on knowledge in ways that they cannot state or explain (Polanyi, 1967). The focus on reflective learning attends to this tacit knowledge and creates learning environments where students can explore what they know and the meanings they ascribe to classroom learning. Reflective practice requires the teacher to become self-aware and to develop the language for bringing his/her experience into the conscious domain. This bringing to consciousness is conceptualised by me as a coming to voice. I am arguing that the process of coming to voice should be viewed as a central purpose of education, since access to language and its many forms, is a major authoritative resource in society and is systematically denied to some groups.

The concept of voice has become a powerful metaphor for development work in both psychology and education generally (Belenky et al, 1986; Walsh, 1991). Coming to voice underlines the importance of the process of coming to know oneself as a thinker, and, as active meaning-maker in the development process. For teachers coming from a traditional structuring of education, where teaching has been construed as narrating, and where the purpose of education is of the successful transmission of a reified, static body of knowledge to a group of students, the process of coming to voice or reflecting is particularly difficult and demands much mentoring and dialogue. Education is experienced by large groups of students as a process that disconnects them from themselves as thinkers. At the very least, traditional practices focusing on rote learning and textbook consumption, communicate to students an arrogant lack of interest or curiosity in their thinking or sense-making process. It also displays a lack of

understanding of the complexity of the learning process and the centrality of dialogue as a learning tool. (Lambert and McCombs, 1998).

The critical theorist, bell hooks, provides a useful working definition of voice:

> ...the idea of finding one's voice or having a voice assumes a primacy in talk discourse, writing, and action..... Only as subjects can we speak. As objects, we remain voiceless- our beings defined and interpreted by others....Awareness of the need to speak, to give voice to the varied dimensions of our lives, is one way [to begin] the process of education for critical consciousness. (Quoted in Walsh, 1991, p. xx)

Although outside the remit of this paper, it may be a useful detour to expand briefly on why critical theorists, like bell hooks, emphasise the "primacy of talk discourse, writing, and action" in transformative education. Critical theorists pay particular attention to language and its many uses in education. They have illustrated how language is not a neutral medium, but rather is culturally and socially inscribed. Critical theorists argue that access to language and its many forms is differentially bestowed on people, and is mediated by power, status, and authority in the community. Furthermore, critical theorists point out that access to language is a key human right since it affords one the opportunity to participate both in *shaping and narrating* those master narratives that become normative canons applied universally. They have underlined how educational discourse within educational institutions has privileged certain groups who come from the dominant social class, gender and race.

These dominant social groups have largely defined what is legitimate knowledge and what knowledge is assumed to be worth transmitting as universal cultural values and beliefs. Societal structures, especially educational structures, mirror or reflect the values of these dominant groups. By the same token, the values of other groups are silenced and marginalized and indeed are often viewed as deficient when compared with the mores of the dominant group. The subjectivities and life-worlds of poor people, people of colour, women, and children have been routinely rendered invisible, by the forms of educational discourse that have been permitted into the academy, and the educational forms that have been given legitimacy. This legitimacy is rarely questioned or open to review. In actual fact, master narratives are often used to obfuscate and mask reality rather than illuminate it. This is nowhere more evident than in our schools where teachers and parents accept the natural flow and routine of school as an "unproblematized good." Lynch, (1999) points to the lack of a research based microanalysis of Irish education. Irish educational research has largely focused on the macro level. In addition, few resources are spent on monitoring classroom practices and

promoting equality of treatment as well as equality of access from a social justice frame. She has noted how students' as major participants and consumers of educational services have been denied any voice in enlightening us on how educational practices are perceived from their perspectives. Critical theorists have asked us to pay attention to the resounding absence of these dialogical structures in classrooms. They have argued that this denies some groups a central means by which they can shape the master narratives of education (Freire, 1970; Greene, 1992, Weiler, 1992).

The philosopher, Maxine Greene (1985), who has spent her life advocating a "wide awakeness" in relationship to teaching and learning, has argued that teachers as a group have failed to question the authority of educational structures, and are very compliant in accepting these educational structures as a "given." They, as a group, have accepted the status quo as if it emanates from the natural flow of a god-given natural law:

> ...because the processes that go on in their institutions strike them as so automatic, there seems to be no alternative but to comply. Their schools seem to resemble natural processes: what happens in them appears to have the sanction of natural law and can no more be questioned or resisted than the law of gravity. (Quoted in Smith,1987, p. 156)

The reflective journal gives teachers an opportunity to intervene in this compliance, and to use their voices to question these authoritative structures. Indeed, it asks teachers to become authoritative sources on teaching and learning themselves, by closely examining and explicating their own professional practices and judgments. Reflective practice challenges teachers to become intellectually responsible for shaping classroom practices from a professional perspective. In so doing it asks teachers to revisit anew those automatic reflexes that support most of their work, and to problematise or pose questions to the status quo. In the same way that the theory of MI runs counter to the prevailing cultural mindset that claims to know the learning potential of students and that separates students into "bright and weak," reflective practices provide us with the ancillary tools for the ongoing deconstruction of those conventions that confirm the status quo and the reconstruction of new more expanded conventions.

The theory of MI challenges teachers to open their judgements of students' potential to include a more diverse expanded mindset and to include students' meaning-making processes. By writing about their educational experiences, and by sharing their experiences with peers, teachers can begin to see the diversity of practices and the diversity of meanings ascribed to educational work. They are thus re-conceptualising their work as teachers. They are contributing to a database that is making their experience visible and public. In the same way, the act of bringing their experience to

consciousness through language, gives teachers more opportunities to regulate, shape, and transform their own practice because consciousness and awareness act as catalysts for behavioural change. Giroux and McLaren (1986) argue that this re-conceptualising will result in teachers being construed as intellectuals and

> ..bearers of critical knowledge, rules, and values through which they consciously articulate and problematize their relationship to each other, to students, to subject matter, and to the wider community. ...The concept of teacher as intellectual carries with it the political and ethical imperative to judge, critique, and reject those approaches to authority that reinforce a technical and social division of labour and that silences and disempowers both teachers and students. (Quoted in Smith, 1987 p. 157)

Essentially, then, by teachers bringing their reflections and knowledge to the public domain they are opening what heretofore were 'private' discourses and knowledge to public scrutiny and examination. By so doing teachers can engage in critical theory generation since often this 'private' experiential knowledge is at variance with public discourses about school and schooling. Thus, teachers can shape educational discourse and can become agents in rejecting those conventions that do not serve all cultural groups and do not serve their own principles of practice. They are involved in the act of reconstituting and transforming their work as teachers. They are challenging rational technical approaches to education that reduce the act of teaching to being simply a matter of applying learned theory or techniques to the practice site regardless of the social and political constituents of the site. Furthermore, this rational technical approach assumes that professional change is a rational, linear, unproblematic process. In so doing, these reflective practitioners are developing what Schon (1987) calls an "epistemology of practice." Through ongoing disciplined inquiry of their work, teachers can begin to generate theories about their work. This epistemology of practice can become a new source of authority and power for teachers as professionals. Therefore, it can become a new authoritative source from which they can counter top-down educational policies and societal demands that run counter to their professional beliefs.

Following, I will explore the shifts and reconceptualisations that occur through the use of reflective journals/portfolios. I will illustrate how this "coming to voice" for students and teachers creates the necessary space for them to bring to consciousness their conceptualisations of teaching and learning, conceptualisations that may run counter to their espoused goals. This consciousness then becomes a catalyst for transformation where they become active in generating different, more complex, multi-dimensional approaches to teaching and learning. Therefore, I am arguing that the experiential

consciousness of a disjuncture between theory and practice is a necessary catalyst for behavioural change.

The Meanings of Education: Reflections on School

It is clear from my ongoing research that one of the obstacles facing both practicing and pre-service teachers in becoming reflective practitioners are strong cultural sanctions that teachers have internalised that determine what is legitimate learning, and, what it means to be a professional. In addition, teachers, coming from an experience of traditional classroom settings have internalised cultural norms that run counter to reflective cultures, including ideas about intelligence, legitimate knowledge, teaching, collaboration, and appropriate classroom practice. There is a dearth of educational structures that provide environments where teachers are expected to explore the "messiness" of classrooms and the "messiness" of their own learning process. These cultural norms need to be strongly challenged and exposed. For example, the hegemonic structure that has defined professionalism in terms of distance, objectivity, and certainty needs to be openly challenged in Irish schools and Irish educational professional programmes. This cognitive structure does not serve the needs of teachers as lifelong learners from a developmental framework where uncertainty and experimentation is more productive.

My research illustrates that what often occurs when teachers begin to reflect on their practice is a necessary *revisiting* of their own biography as learners. This revisiting often entails a reframing of who they are as individuals, and what they value as persons. This reframing process is then integrated into principles of practice that are not just *received* practices, but are practices that are embedded in a deep connection to themselves, and grounded in their sense of themselves as individuals. This personal revisiting and exploration, albeit emotionally and spiritually taxing at times, is essential to reflective practice. Indeed a reflective practice approach challenges the personal-professional dichotomy that permeates dominant professional cultures defined from a rational technical perspective. My experience from working with many groups of teachers illustrates that teachers, as learners, have rarely been given permission for such a personal approach to learning, and have rarely been given a space to explore their own narrative vis a vis learning. Osterman and Kottkamp's (1993) defines reflection as:

> Reflection is…a means by which practitioners can develop a greater level of self-awareness about the nature and impact of their performance, an awareness that creates opportunities for professional growth and development (p.19).

This definition identifies self-understanding and self-awareness as key building blocks in generating and promoting professional development. However, in Ireland this personal

understanding is largely absent from teacher professional development programmes in any explicit way. Osterman and Kottkamp identify an individual's awareness of the *impact* of the self on their performance in the professional context as a key focus in promoting ongoing learning and development. Reflective practice concerns itself with developing both of these aspects of professional development. However, to engage in reflective practice demands a lot of teachers in terms of self-confidence and self-esteem. It demands a cadre of teachers who have the confidence and self-esteem to enter Schon's 'lowly swamp' of confusion, uncertainty, experimentation, and messiness. To develop this confidence and self-esteem, and to help teachers ask those questions that Shulman says are necessary for skilful teaching, we need to provide educational structures and programmes that invite such questions, which support such an engagement, and that assume that inquiry is at the heart of effective teaching.

In analysing biographical reflections from HDE students and MI teachers the following themes arise consistently from students as they reflect on their own learning histories:

- Teaching is text-book centred rather than student centred
- Textbook is the syllabus - "obeying it like a Bible"
- Learning is simple - "We tell, they learn"
- Students are "receivers of knowledge"
- Teachers are "givers of knowledge"
- "Knowledge" is unproblematic
- Teacher is narrator.
- Learning is impersonal.

These are the dominant meaning frames that student teachers bring with them as they begin their student teaching. These frames come directly out of their own experience. Following I will explore these broad themes in more detail.

"Learning is…." a deadening experience:

> In school we were *handouted to death*...everything we needed to know was on those sheets. All we had to do was learn the information. I transferred my own experience onto my 2nd years. (Vickie[36])
>
> I brought to teaching what I had experienced. Looking back on the beginning of the year I largely saw the teacher as narrator. Basically I had a body of knowledge I wanted to communicate and once communicated I believed it was learnt. (Tom)

[36] Pseudonyms used throughout to protect confidentiality of students and teachers.

These pre-service teachers characterise their own experience of education as a lifeless and passive experience. Vickie creates her own word "handouted" to describe the educational process. She also links this "handouting" process to "death" underlying the silencing and deadening aspect of traditional education, where the student's job is to passively ingest information. Knowledge is constructed as static, reified, and as unproblematic, a commodity to be passed on and "passed out" by the teacher to the student - "everything we needed to know was on those sheets." For Tom, the complexity of teaching and learning is reduced to the acts of narrating and communicating. The focus is on what the teacher does, which is to become the narrator, the teller, the one with a voice, and therefore the subject of education. Tom transfers his experience onto his first year history class since his classes become teacher-centred. Initially he fails to see the complexity and multi-dimensionality of the learning process. Vickie also affirms how she "transferred" this experience onto her second years, and sees her purpose as teacher to be one of plying handouts on her students.

The absence of dialogue or talk as an integral part of the learning process is chilling. It is particularly chilling given the amount of cognitive research done in recent decades that uphold the centrality of talk discourse as central to meaningful learning. Conversations and dialogue are crucial and central to moving students to a reflective standpoint (Belenky et al, 1986;1997; Barnes, 1976; Lave, 1988; Lyons, 1998; Vygotsky, 1986; Wertsch, 1991). However, what reflective journals document and bring to the foreground is the absence of this kind of work from our educational system. The predominance of teacher talk rather than student talk in classrooms, of learning being conceived as technically learning off reams of knowledge constructed in other places and times, and the absence of students' ideas and thinking shout for our attention as educators. Although student teachers may read research about learner-centred pedagogy and constructivist education, they will often not be able to integrate it into their practice without the experiential knowledge of how dialogue and teacher feedback inform and influence their own learning.

"Learning is…"- a distant, impersonal process:

The sense of voicelessness and the depersonalisation of learning are common themes in the biographical reflections of these pre-service teachers. They highlight how students' own subjectivity, that is, their own experiential knowledge base, was not part of their educational experiences to date:

> I was never given an opportunity to personalise my learning or understanding. Looking back I can remember learning off reams of material none of which I

> remember today. I remember asking one teacher how a formula for calculating interest was derived and her reply was: "You don't have to know that, all you have to do is learn it" (Mary)
> Learning was from the book. I never saw it any other way. (Gerry)

For Mary, learning is conceptualised as a technical process distant from her own embodied knowing and thinking in the world. Learning has never been *personalised* to any degree. This is a theme that resonates through the reflective process with teachers at all levels. It is one of the major obstacles facing students and teachers. For many students, the process of reflection is seen as an invitation to bring their own voices and put their own personal mark on learning. It is an invitation that challenges many of the *sacred cows* of traditional, mono-cultural, models of education. These mono-cultural models assume that only knowledge already defined is worthy of transmission, or worthy of educational examination. These pre-defined knowledge sources are assumed to represent universally the human experience. Rarely is there an acknowledgement of the partiality and ethnocentrism of these knowledge sources (Nieto, 1996).

This model could be conceived as a controlling device that privileges some experiences and voices over others. It certainly transfers a model of the world that subjugates and dismisses students' experiential knowledge, subjectivities, and the diversity therein. A request for understanding in a mathematics class is met with a response of: "*You don't need to know that, just learn it.*" Learning here in this Math classroom is disconnected from "knowing." In Mary's classroom, the teacher does not view the logic that informed the construction of a formula as worthy exploratory material. Rather, learning is conceived as *receiving some authority's* construction of a formula, and knowing it for the examination. The teacher is not able to integrate this student's legitimate question into her learning goals. This is antithetical to constructivist education and is very much within Belenky et al's description of received learning, and Freire's (1970) "banking" model of education. Learning is focussed on a knowledge-downloading model and is very disconnected from the student as thinker and knower. Students' thinking process, conceptions, misconceptions are not viewed as resources to learning but rather are dismissed and often seen as an interruption to the class agenda. Gerry's statement: "*Learning is from the book. I never saw it any other way"* illustrates further this knowledge-downloading model of education. Again the personal construction of knowledge or of understanding is absent. The *book* is the authoritative knowledge source. Students are the uncritical receivers of this book knowledge.

"Learning is…." - done in isolation, at home:

In some cases, school is not viewed as a place where learning occurs at all, as is illustrated below by Jeff and Teresa's reflections:

> It's funny I never saw school as a place to learn stuff. The teacher's job was to present the class and to give you homework. Your job was to learn the presented material when you got home. I often think now of those students who were not like me, who were not motivated to learn it when they got home. I spent hours and hours learning stuff at home but I never saw school as a place to learn. Those students who were not motivated got left behind (Jeff).

> In my own school because of the way we were taught in my class (largely passive learning) I generally went home at night time and learned what we covered that day in my class. I don't think that I ever really knew a topic coming out of class before I got home. I never even considered the fact that something could be known before you came home. To me then, knowledge was presented in school but learned at home – "What other way could it be?" This worked fine for a diligent student like me, but what about the one who didn't bother to learn at home. They fell behind obviously because a new topic would be covered the following day. So this method only suited those who had enough motivation themselves to learn, those interested in succeeding, and confident in their ability to learn (Teresa).

Jeff 's meaning of school is that of an experience of *passive learning*. His job was to "*learn the presented material"* at home. The teacher's role is confined to presenting material and to giving out homework. There is no experiential repertoire here of the complexity of teaching and learning, and the myriad human skills it employs in changing a person's view of the world. The image of the teacher "presenting material" is not connected in any way to the image of the student as learner. Learning is done in isolation and away from school. It is interesting to note, however, how Jeff's reflective journaling is beginning to document the changing of his thinking about teaching and its concerns. His reflections illustrate the beginning of a question or a concern – "*Those students who were not motivated got left behind.*" This statement links the quality of *motivation* with learning, and the lack of motivation with being left behind. Here Jeff is beginning to make connections between the conditions that support learning and the conditions that prevent learning. It marks the beginning of a process of empathising with those students who had a different experience than he had. This empathic understanding of a point of view that is outside one's own experiential frame is crucial to educating a teaching profession that is capable to teaching students from diverse

cultural and class backgrounds. Jeff's own biographical revisiting, therefore, begins a process of reframing for him as he looks again at those students "*who were not motivated to learn.*"

Teresa's reflection has a similar theme but she goes further in her questioning. Her critical question: "*But, what about the ones who didn't learn at home"* could become the basis of disciplined inquiry for the remainder of the year, if scaffolded and mentored by a tutor. Teresa's key question could be productively linked to the mountains of research that illustrate how some students systematically fail to access education in our schools, and to the key principles of *quality, equality, pluralism, partnership and accountability* that underpins the Government White Paper on education. Indeed, this inquiry deserves systematic investigation by all teachers. Teresa's statement that "they fell behind obviously" speaks loudly of a system that does not engage with a student's *confidence in their ability to learn.* The fact that "a new topic would be covered the next day" further elaborates on a pedagogy that is not connected to learning. The responsibility for learning is placed squarely on the student with an absence of teacher feedback, ongoing assessment, or involvement in creating a learning environment. Indeed, many school practices, including streaming and other practices, decimate a student's confidence in their ability to learn. Her choice of the word *obviously* is telling. Teresa makes a number of important connections to the conditions that support student success in schools. A student needs confidence about their *ability to learn, and a student needs motivation and interest in succeeding.* There is an implicit criticism in her statement about how the teaching method employed only suited those *diligent students like her* and an acknowledgement of how this method *privileged her as a diligent student.* Teresa, in her reflective journal, is beginning to question this dominant method and this privileged position.

As teacher educators, we need to encourage and nurture this kind of consciousness raising in teachers if we want to address social and educational exclusion. As a student, Teresa, like Jeff, views her job to be chiefly concerned with learning presented material. Her rhetorical question: "*What other way could it be*?" underlines her previous unquestioning acceptance of her role as "*diligent student*." Both students have highlighted a resilient and ongoing problem in Irish education. Both communicate the sense of passivity, of dead material being covered in a disembodied way, and how success is largely dependent on one's motivation to succeed and confidence in "*one's ability to learn."* For Jeff and Teresa, the framing of school and the meanings they ascribed to learning is counter-posed by their inclusion of reflections about the experiences of students different from themselves. Thus, we see the beginning of empathic understanding, that is, the ability to see the world from a point of view,

different from one's own. This ability needs to be nurtured and developed since it is central to effective teaching from an "ethic of care" frame (Noddings, 1992) and certainly becoming a highly critical capacity in adapting to teaching in a multicultural world (Nussbaum, 1997). These fledgling questions could fruitfully become a central focus of their professional development by becoming a key practice concern that is systematically explored in their teaching practice.

From these accounts it seems that the pedagogical practices in Irish schools have changed little over the last decades, even though these students would be construed as the success stories of our education system. All have honours degrees and have proceeded successfully through the many gate keeping mechanisms in our system. Similar themes emanated from my previous research with those students who would have been construed as failures - early school leavers (Rath, 1995). It is clear that student teachers bring this experience to bear on their own teaching practice and often conceptualise teaching and learning in simplistic terms. Teaching is conceptualised as "communicating a body of knowledge to the students," is 'about presenting' and so on. Once communicated, student-teachers believe it is learnt. Their primary efforts as beginning teachers is to narrate a body of knowledge to students. They do not question if students can understand their narration, the sense students make of it, or if they can make the necessary translations to their own experience. In actual fact, there is very little curiosity or attention paid to students as *agents, as* active meaning-makers, and active learners. This lack of curiosity is at all levels of the education system including the university level.

The reflective journaling process and the reflective dialogue that occurs about reflections *illuminate* these conceptualisations or frames for student-teachers, thereby creating an intervention in students' lives for their reconceptualisation or reframing. This *illumination* is an essential starting place for reflective practice and for cultivating critical disciplined thinking dispositions. For many HDE students the process of having to keep a reflective journal is a taxing and new requirement. We have to recognise this in the structures we set up to support and scaffold this process since this may be the first time students are required to become the legitimate *subject* of education. This requirement, albeit fraught with anxiety and difficulty for both students and tutors, communicates to students the significance of the self in constructing knowledge, and provides them with a new model of education that is learner-centred and inquiry oriented. The reflective journal confirms a student teacher's own active meaning-making as legitimate educational practice and worthy of exploration. The student teacher has the experience of attending to the links between thinking, acting, and writing. Implicit in this new curriculum is the acknowledgement of the constructivist

nature of knowledge. The student's interpretation of knowledge and the frames a student utilises in understanding or organising this knowledge become legitimate teaching and learning concerns.

Student-Teacher Feedback Loops: The Missing Developmental Link in Education.
As stated above, some students are initially very sceptical about the reflective process and one of the misconceptions is that there is "a right way to do it." Because of the hegemonic culture of '*right answerism'* in Irish education, there is a lot of resistance to exploratory thinking and writing, to 'not knowing,' and there is an avoidance of learning situations that are uncertain and call for one's own agency and decision-making. Students and teachers have come to expect (and excel) in learning environments that are pre-determined, fixed, and static. The current examination culture in second and third level education is proof of this where students' energies and efforts lean toward passing the examination rather than learning. Reflective learning is much more open-ended and 'messy' and requires much more self-initiative, and self-referential work. Therefore, reflective learning requires a life-long learning perspective that is characterised by self-discipline, self-regulation, and self-motivation. Without adequate support, some students will fail to see the purpose of reflective journaling and see it as a waste of paper. A pre-service teacher in a survey review of reflective journaling shared the following reflection:

> I felt the reflective journal was a waste of time and paper. Imagine giving anybody marks for simply recording their thoughts about teaching and learning. That doesn't show anything.

One judgement about this statement could be that this student did not "get it." However, we need to explore beyond this judgement and reflect on the educational practices that could lead to such an experience. Do we place the responsibility for this conclusion on the student or can we use this as a useful feedback loop that helps us reconfigure learning environments that predispose students toward reflection? It is interesting to note that this student had no tutor guidance or feedback on his reflections. He wrote his reflective journal in isolation and did not understand the objectives of this programme requirement. Indeed, according to this student, his tutor not only did not encourage or provide a space for him to explore his thinking, but concurred with his interpretation of the journal as a waste of time!! This begs the question: Who will educate the teacher educators!!

This student did not have an opportunity to bring his ideas out into the public domain of a classroom or tutorial where other perspectives could have informed or transformed this perspective. He thus stayed within his own experiential frame or comfort zone. This

experiential frame had obviously communicated to him that the development or recording of his own thinking had nothing to do with education. He conceptualised reflection as simply a process of "recording" his thoughts about teaching and did not conceptualise it as a learning experience. The choice of the word "recording" is telling. Recording connotes a process of factual description of what is or the given in education, rather than an exploration of what is possible or imaginable, in practice. '*What is'* or *the 'given*,' is viewed as fixed and immutable and not open to change or transformation. This student seems to have little consciousness of, or indeed little curiosity about, the learning potential of speculating, exploring, or examining his own thinking as an entry point into understanding his values or beliefs as a teacher. It is my belief that this student did not have an educational experience that nurtured exploration, inquiry, or speculation. Without active tutor guidance and feedback in his teacher education programme, and without the active engagement of the student, reflective journaling can indeed be experienced as a waste of time and effort. What is disturbing is that this student teacher left his initial teacher education programme without any intervention that sufficiently challenged this experiential framing of the purpose of education. This student, in his quick dismissal of his own thoughts as not "showing anything," may equally dismiss his students' conceptualisations and thinking as not being legitimate material to the educational project. Implicit in his statement is the idea that his thinking as a student does not merit assessment.

The cultural impact of this construction of education, as something apart from one's own thinking, and as a disembodied technical process, cannot be underestimated. It is clear that students coming from a traditional didactic structuring of education do not know how to actively engage in their own learning. This kind of active engagement and participation has to be taught, nurtured, and mentored. The first step, I believe, is to introduce assessment practices that require such an engagement. The portfolio process is such an assessment practice. Structures must be created to provide an environment for students to learn the value of this kind of engagement, and the importance of taking this kind of learning seriously. Here, an MI project teacher talks about the difficulty in starting to write in her reflective journal:

> I have every intention of writing but I stop myself. I don't know why but there's a sense of 'I don't want to mess up this nice clean book.'….
>
> I had trouble writing down my thoughts as they come. From Primary School it has been drummed into me to have good writing. I have the same expectation now for my students. The very idea of not writing it out properly was hard for me. I had to free myself up a bit and I found that difficult. I have always had the idea that rough work should come first. I had to tell myself that it was okay to

> have a scribble. I really had to grapple with this. I thought about doing drafts but that seemed daft. To do drafts would take too much time. I didn't have the time. There was no function in writing it out properly. It was not going to be **handed in or corrected**.

This MI teacher is grappling with the question of audience. She is able to take ownership when she realises that the journal was not going to be "*handed in or corrected*" She exposes the grappling that she had to do in taking this ownership, and she illustrates how *handing in* her reflections would put her in a very vulnerable position. Implicit in this notion of *handing in* is criticism and judgement. Writing down her thoughts as they come was internalised as not proper writing. Previous writing has been done for some o*ther's approval*. The journal is for her own approval and for her own self-learning. Therefore the axis of approval (and self-evaluation) has moved from an external source to an internal source thus highlighting this teacher's movement toward claiming professional authority over what is meaningful. Reflective journaling can assist in this development since it requires that teachers take ownership of their learning, a key life-long learning task.

As students, many teachers have experienced harsh feedback and judgement about their beginning efforts at writing and sharing their thinking in the public domain. The question of audience is crucial. First and foremost, audience reflects back to the student a sense of who they are in terms of a learner, and where they are in terms of learning potential. Audience also provides the learner with a sense of having one's work witnessed, received, and understood both in what it accomplishes and what yet is to be accomplished. For many learners, feedback has often meant summative judgement. Many teachers see their work mainly in terms of 'correcting' a student's work. The "red-biro" syndrome is a dominant one. Reframing this key aspect of teaching leads to a number of cultural changes that are necessary in creating rich dialogical cultures of learning that are necessary for developmental education.

In the following teaching vignette, I will highlight the importance of exploring with teachers their experience of feedback and how this experience can be used as a critical learning entry point into reframing this key aspect of teaching. Orla, a HDE student shared the following in a large lecture hall of over 200 students. This was her response to my request for students to reflect on their most memorable experience from second-level school. This came from Orla's Leaving Certificate year:

> For me what comes to mind about school is my English teacher. Each Friday we got an essay to write. I hated that essay. And each weekend was spent worrying about my essay and writing it out. On Monday morning we got our essays back. I invariably

> had my copy flung at me by an irate teacher. She always made some disparaging remark to me about my work. What I remember were the red marks and the D/E, or sometimes the C grade, if I was lucky. One day, she threw my copy at me and said something like "My cat would have made a better effort at this." That was the day I asked to be put into a pass English class. (Orla, HDE Lecture, September, 1998)

Recounted in a large lecture hall of over 220 students, the emotion and energy behind this account was still palpable. Of the five students invited to share, four students shared negative experiences, many of them about their sense of not fitting into the school structure, and receiving harsh feedback. Clearly these experiences were marking ones for these students.

As a teacher educator, I was attempting to model the power of reflective dialogue and exploration of teachers' biography as entry points into teaching. I wanted to model the importance of presenting one's work in order to uncover embedded meanings, which I conceptualise as layers. These meaning layers are 'peeled' away in reflective dialogue and conversation. This kind of open exploratory work is necessary in developing a reflective disposition. My initial question to Orla was to reflect on why the recounted event was important to her and what she had learned from it. Her first meaning-making layer was conceptualised in very general terms of "good and bad" teachers, and in terms of her as a student "not being good at essays." Some students without access to reflective dialogue may stay at this general level of meaning. However, when probed further they can uncover other more subtle meaning layers. Orla, when probed further about how this experience was connected to her new role as student teacher, found it initially difficult to articulate further meanings other than her wish "not to be" like this teacher, and her aspirational goal of being "nice" to students. Again her account stayed quite generalised. My exploration with her centred around moving these generic meanings to specific, action related concepts that could be applied in her teaching practice context. I asked her to reflect on what her needs were as a Leaving Certificate English student. She then had the following crucial insight:

> I never knew how I could make my C/D grade into an A grade. I tried my best but I never seemed to get it. She never told me what would make an A grade.

Orla has uncovered the essential missing information she needed as a student in order to accomplish more in her essay writing, and to link her accomplishment with learning. Her D/E grade did not give her this essential information. When she got a C grade she put it down to "luck" rather than relating it to any improvement. Orla did not have space to reflect with her teacher on what the meaning of the grades meant in terms of applying herself to learning how to write an essay. Instead of working on her essay in a

productive way, Orla spent the weekend "worrying" about it. Her teacher did not give her any information on ways of improving her essay or showing her exemplars of A/B/C essays. Such feedback is essential for progress.

My next step with Orla concerned how she could integrate this insight into her own teaching now in the teaching practice context. Orla, with a few key questions was able to connect her experience to a clear learning goal: to learn how to give good and appropriate feedback to students. Good and appropriate was defined as "feedback that helps students move forward in their learning." This concern/issue could be the entry point to ongoing reflection and inquiry throughout the entire teacher education year. G*iving appropriate feedback to students* could become a key action research goal for her as a student teacher. Eventually one hopes that it could be integrated into a philosophical, principled position that would characterise her teaching and her approach to student learning.

Teachers' learning histories, particularly how they have been received or witnessed in the learning situation, are crucial in understanding how they approach their reflective journaling, and on how they approach giving feedback to their own students. The encouragement to share reflections with peers or with a critical friend means that they are again put into the position of revisiting this history, and the meanings ensuing from it. Therefore, sharing reflections almost always means vulnerability. This may be one reason that reflections are invariably seen as something private and something that one can use oneself. One teacher put it like this:

> I use the reflective journal for myself. I find it very useful but what I write is very private and I wouldn't feel comfortable sharing with others (MI teacher).

I believe that for professional discourse to change we need to provide environments where teachers feel safe to share reflections and where those reflections are received in a way that promotes further exploration and development. Again this aspect of teaching needs to be taught explicitly. When there were opportunities to share reflections during the MI sessions, those that shared often chose 'safe' upbeat accounts of their experimentation with MI. There were few accounts that dealt with the failures, the uncertainty, and the messiness of experimenting within a busy classroom situation. There needs to be ongoing research on this cultural aspect of sharing one's writing and reflections in the public domain. There are few opportunities in our educational system for using the writing process as a process of finding out what one knows. Students rarely have experienced a learning environment that fostered this kind of engagement with their own thinking process. Therefore, it is of paramount importance to create a learning environment that provides enough security for risk-taking, for developing ideas,

for sharing emergent thoughts and ideas, and for wondering aloud with peers. It is of paramount importance that reflective journals are responded to and given adequate feedback that will promote further development.

This was not a feature of the MI project intervention. However, it is a feature of my work with HDE students. Initial explorations are confirmed and more detailed descriptions are encouraged. Dogmatic positions on context, students, or curriculum are challenged and students are often asked to pose new questions, or to consider other perspectives. These feedback loops are necessary for both the tutor and the student. Development of thinking can only occur if this scaffolding is present. For development (people, thinking) to occur Kegan (1982, 1994) [37]argues we must provide holding environments that both ***confirm*** and ***contradict*** an individual's point of view. We must create for students "holding environments" that both hold them in their present perspective, that is, confirm what is accomplished in a piece of work, whilst at the same time providing enough specific feedback that identifies what is not yet fully accomplished and needs further work. In reflections, we must encourage students to explore and uncover different more expanded ways of looking at a teaching event or significant experience. This uncovering will allow the student teacher to firstly explicate his/her own position/standpoint in constructing a given event/experience, that is, to become self-aware and self-critical. Without such a holding environment students will not be able to extend and expand to reach their learning potential. Neither will they be able to adequately utilize their intelligences in their engagement with their environments. Reflective practice, then, is very much concerned with practice and with creating holding environments that allow students to constantly review their learning in order to move beyond their present positions.

The Reflective Journal: A Sifting Mechanism and Metaphor

> When in the midst of a situation things can look very dark. Reflection can bring you out of it. (MI teacher, Mary: Fieldnotes March, 1998).

This MI teacher used her reflective journal to illuminate the darkness that can shroud her thinking in the midst of the multi-faceted nature of her work as a teacher. It helps her engage productively with a very challenging group of sixth class girls in an economically marginalized community. Mary uses the metaphor of *sifting* to describe how she uses the reflective journal; the journal as "sifting agent" helps her look through

[37] Piaget focussed on the individual's development and conceptualised learning in terms of the individual experiencing *equilibrium and disequilibrium*. Vygotsky places much more emphasis on the dialectical between the learner and the environment and foregrounds the importance of creating learning

the day in order to see what is worth examining in her bid to "create a learning environment for a group of students, some of whom are very difficult students and disrupt everybody else." As Mary attends to the pattern of events that emerge, the journal helps her identify priorities and thus to become a more self-directed and self-regulated teacher-learner. In addition, the journal helps Mary to see herself anew and to understand herself as a teacher:

> *I like harmony. I've always liked harmonious settings. This year I've learned to work with conflict in ways I wouldn't have chosen to. In a way these problems made me a learner.*

A small group of girls who are constantly disruptive are the catalysts for this engagement in learning. Through her own reflections she begins a process of sifting:

> It makes me ask the bigger questions: What are we doing in teaching and learning? What am I doing as a teacher?

This question becomes a central one for this teacher-researcher as she grapples with the exigencies of a difficult group of girls entering puberty who seem to be out of control. The sifting helps her to discriminate between what is important and relatively unimportant as she engages with this problem. The journal as "sifting" agent provides her with a support that allows her to see her teaching as "research." A number of interesting research questions come up for her consideration: how to use cartoons to animate an unmotivated girl; a concern with making mathematics a relevant subject for these girls who "find no rhyme or reason to mathematics;" and how to productively use conflict as an entry point to learning. Her reflections help her to see how "hemmed in she feels by the curriculum and by entrance examinations." This teacher has to mediate between the immediate needs of her students and the need to prepare these girls to compete in entrance examinations. Reflections help her clarify and motivate her to experiment in her classroom. Mary moves toward creating a thematic based curriculum that is relevant to the girls' experiences including providing multiple entry points to learning experiences. She engages these students in real problems that come from their own lives including the many conflicts that engage them. One of her interventions is to give her own students a reflective time every day. Their reflections are focused on "How they see themselves and on why they act the way they do."

What she experiments with is learning to "deal with what they bring in and working that into their curriculum." This teacher discovers an immediate improvement in students'

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environments that scaffold learning for the individual and address the *zone of proximal development* for learners. The zone of proximal development is the growing edge of the individual.

attitude to school including an increased ability to "concentrate, engage in the task at hand, and an ability to deal with freedom." However, the reflective journal highlights not only her students as learners, but also her own process of learning how to engage. She sees a parallel improvement in her practice and in her ability to "focus on the task of teaching." Teaching now is much more fluid and dynamically linked to her 'reading' of the classroom context. Thus, there is a new emphasis on her own process of thinking about her work that is mirrored in her approach to her students and their curriculum. Mary both sees herself as learner and as authoritative source on her classroom:

> It helps me to name. It helps me to focus on the process and to use supportive frames in order to see things that I can think about.

This movement is essential to becoming a professional. The professional ground that Mary stands on is constructed by her own professional reading of a unique context, with unique human beings, from a particular unique teacher's point of view. Mary's own inquiry, questions, and authentic engagement with these girls as developing human beings breathes a much needed life into the educational project. The statement: "It helps me to name" is a significant one. Here, Mary is stating that she is now the narrator of her own teaching thus claiming an authority that is necessary for professionals to claim. More importantly we see educational practice mirroring the laudatory goals of many of the curriculum change projects over the last two decades: active learning, multi-disciplinary and cross-curriculum inquiry, and teaching for understanding. Mary, in her engagement with her students and her own interpretation of them, is also expanding our view of what is possible or imaginable in our schools.

Changing Practices: Becoming Agents in Constructing one's Practice

> The [reflective] portfolio acted like a valve system in that it allowed me to release all pressures and anxieties and find some rationale for them. Even if a conclusion was not immediately found, somewhere down the line another entry into the portfolio mapped onto it. It took me a while to realise that a portfolio is not an essay with a beginning , middle and end - **it is dynamic and changing process**. The portfolio develops in accordance with how you as an individual develop both on a personal front and as a teacher. Because **I was thinking about my development I began to gain confidence in my personal ability**. Having well researched conversations with peers and learning from them was also helpful. Portfolios encourage reflection and life- long learning, and in this sense I hope to be a student for life. (Rose, HDE, 1999)

As stated above, the process of coming to know is rarely scaffolded or made public in formal education. Reflective journaling is an opportunity for sharing one's own coming to know in public, and for seeing how emergent ideas, thoughts, musings can develop into substantial questions, themes and theories about education. Above, Rose, a student teacher, uses a "valve" metaphor to describe how she uses her reflective portfolio. This "valve system" helps release all the external pressures that exert enormous stress on student teachers, especially student teachers that have excelled in academic contexts, to get teaching right the first time. It is a big step away from the predisposition to reduce complex concerns into a quick right answer.

A new confidence in finding a solution is suggested in the statement: "*Even if a conclusion was not found immediately, somewhere down the line another portfolio entry mapped onto it*." Thus, the portfolio process helps Rose develop an experimental view of teaching and to engage in the complexity and uncertainty of learning. This interpretation beautifully counters the prevalent 'right answerism' that permeates traditional learning cultures. The first year of teaching is a crucial developmental stage in teacher development as it is in this first year that the foundational understanding blocks are laid to a lifelong approach to teaching. Rose's reflection above illustrates the newly found confidence and *authority* that comes from structured disciplined inquiry and documentation of her development as a learner. This authority comes from viewing herself as *author* of her own learning: "The portfolio develops in accordance with how you as an individual develop both on a personal front and as a teacher." With the portfolio process, this student teacher released her anxieties about getting things right the first time (or first year). She realises that an event can be looked at later and that understanding develops and grows with engagement. Learning to teach becomes a life-long learning *scholarship* with the concomitant predispositions of disciplined inquiry, documentation of practice, and ongoing examination of evidence of one's work in the form of student learning. In addition, Rose is taking full responsibility for the creating of a learning environment for her students. "I didn't spout off my knowledge any more" describes her movement away from a traditional framing of her role as teacher. Now she is concerned with "encouraging" students to "elaborate" on their own questions and knowledge and to become "inquirers" themselves.

Rose beautifully describes the essential components of reflective practice and the power of the reflective portfolio to promote a life-long engagement with one's own learning and with nurturing a similar approach with students. She makes the link between her gaining confidence in herself and being connected to herself as a thinker. There is a growing sense of ownership and responsibility for both shaping and narrating her own learning. Learning is not something with a "*beginning, middle and end but a*

dynamic and changing process." Dialogue and talking about what she is learning with peers becomes a new valued norm. It shifts static and rigid meanings into dynamic and changing ones.

However, more importantly, with an engagement with one's own learning process, there is a new curiosity and engagement with one's students. This is ultimately what becomes a transformative pedagogy for student teachers when they can translate their own engagement with the learning process onto their students. Here Elisabeth highlights the importance of dialogue with peers, other teachers, and friends in keeping her in learner mode. She also highlights how she transfers this into a promotion of students as knowledge sources:

> The portfolio process provided a basis for dialogue between fellow teachers, students and friends...Both in conversation and reflective writing I was a learner. This affected my teaching. I didn't spout off my knowledge any more. I allowed and encouraged students to elaborate on their questions, answers, and existing information and become inquirers themselves (Elisabeth).

This statement is the beginning development of a learner-centred and constructivist pedagogy. Students' conceptions and misconceptions are engaged with as central building blocks in the learning to teach process. Since student teachers were engaged in their own knowing/learning process they began to view students as knowers and thinkers. This has huge ramifications for how they designed learning opportunities. There is a sense that learning is about building upon the existing knowledge of their students, a central constructivist idea.

In addition, there is a new sense of students' awareness of their own agency in the construction of learning environments:

> I now began with what the student did know and not the opposite. I began to treat all knowledge as legitimate, although as teacher and historian, realising the varying degrees of legitimacy. **All pupil knowledge is legitimate in the sense that it is the starting point from which existing knowledge can be challenged and built upon** (Beth).

Beth is beginning to develop a theory on what is legitimate knowledge and practice in educational settings. She is also able to distinguish between varying degrees of legitimacy in knowledge claims, a central disciplinary component of history teaching. In her work as a teacher using a TfU model, Beth's teaching throughline is the development of students as legitimate sources of knowledge and in integrating students' knowledge into the history curriculum.

At times reflective journaling can be a catalyst for action and change as the following reflection illustrates. Here a student-teacher aptly describes how the reflective process makes him aware of his own thinking, and is a catalyst for a process of self-questioning and active engagement. It does not allow him to "put [his] head in the sand and pretend that everything is okay." Jack initially described the process of "aimlessly" collecting artefacts. However, the process itself caught him and engaged him in a thinking process. This is a clear expression of Loughran's (p.5, above) description of reflection as demanding an attitude of open-mindedness, responsibility and wholeheartedness:

> After a while I became aware of the fact that I was actually thinking about what I was doing. This happened because I would suddenly find myself saying: "this would be good for my reflective portfolio." The portfolio forced me to think about my teaching and to question exactly what I was doing. The reflection process was by far the most difficult part of the process... Because of reflection, I could no longer put my head in the sand and pretend that everything was okay. I had to look at myself and ask what I could do to change things. (Jack, HDE,1999).

Jack's portfolio "*forces him to think about his teaching and to question what he was doing*." Although, he approached the portfolio in the usual "rote-like" manner – that is, he collected artefacts and tried to fit them into some "acceptable narrative with a beginning, middle and end" as he would any other essay, he found that one of the consequences of having to compile a portfolio was his consciousness of his own "thinking" about teaching – "*After a while I became aware of the fact that I was actually thinking about what I was doing."* Thus, the dialectical relationship between thinking and doing is brought to consciousness and brought to bear on his teaching practice. This consciousness is crucial to developing life-long learners who are aware of their own agency, and take responsibility for their own agency in constructing learning environments.

Similar themes arose for MI project teachers when they reflected on their learning. For some teachers, the reflective journal had a profound effect on the perspective they now take on their teaching. Their words underline a new sense of taking responsibility, agency, and coming to voice. One teacher puts it like this:

> Up to this point, I would have looked after my own corner really. But now I have a sense of more **ownership**. It's only **the little things** really but I seem to look at the overall picture more and it has broadened my horizons a great deal. It has given me the space to look at the broader questions.

Another teacher describes the process like this:

> It made me think of situations and students that I normally would have put down to **little things** but writing it down has made a difference as it has forced me to do something about it. I was forced to decide how I would act. I became very conscious of myself.

Both of the above teachers spoke of changing their practice as a result of their reflective journals, that is, their reflections led to some action or experimentation with their teaching. The reflective journal gave them a space to look back on an event and to make sense of it in a way that before would not have happened in the busyness of a teaching day. The writing about their practice challenged them to attend to the "little things" that they often discounted in their work. The process of writing has led these teachers to ask the broader educational questions, that underpin their work and that impact on who they are as professionals. Both talked of using their reflective journals as a catalyst for having different kinds of conversations with their peers, that is, conversations that were based on professional questions and problems, the kind of dialogue that Little (1982) argues is essential for the development of a professional culture. Another teacher who used the dialogue with a critical friend comments:

> Very often we don't have the time to talk. It's not that you don't assess, you do it walking down the hall and you have thoughts and you talk it out with yourself. But to talk to people who are into it (MI) is really important. Very often when staff hear new ideas they are turned off because to them it immediately translates to more work

The absence of talk and dialogue from teachers' lives is a striking one given that teaching and learning by their nature entail talk. The idea above that new ideas always translate to more work may point to what another teacher called the "saturation level" of teachers. At the moment teachers are overburdened with new curricula rapidly coming on stream with a concomitant lack of time or resources being given to meet these new demands.

For one of these teachers above, conversations with a peer, about a problem he privately experienced with a particular class, has led him to initiate a school-wide conversation and eventually a school wide policy change. This teachers' reflections about a group of first-year students, that he was experiencing as difficult, led him to the belief that these students were badly served by the structural arrangements in the school. His own feeling of dissatisfaction with the structural arrangements fuelled his consciousness of the problem. As a weak class, he decided they needed far more contact with teachers than the customary two or three times a week contact time time-tabled for all classes. Next year this school will experiment with a new timetable that

gives first year students more contact with a smaller team of teachers. His reflections led him to pose questions to the system that heretofore may have been privately posed but not publicly articulated. Thus, a problem experienced in the private domain of a teacher's classroom has been transformed into a *public* questioning of a previously, unquestioned, structure in his school and has led to a commitment to experiment with a new structure. Who knows where this small change could lead in further years? Ultimately, the students in this class are receiving the benefit of this teacher's reflections, making school a more dynamic and open system.

Self-Regulating Professionals: A New Responsibility for Action

> I feel some of the sacred cows are being slain here. There has been an absolute faith in standardised tests. Tests have been beyond reproach. Before I hadn't made a connection between teaching and understanding. I would have worked from the assumption that it's gotta stick. And I'd keep working. TfU worked from the other end. There's a double focus that we must keep in mind: It's both what you thought/taught as a learner that is important (MI teacher, reflecting on the MI project).

This teacher focuses attention on two key learning contexts, that is, the context of what is "*thought*" and what is "*taught*" for the learner and teacher. Both are intricately linked. Reflective practice explores the link between one's thinking and one's teaching ability. This statement highlights this teacher's awareness of the powerful influence of the cognitive schema or thinking available to the teacher in constructing a learning environment. Both are mediating contexts in constructing learning environments. Before, this teacher implies that he focused on what he taught as the main focus. Student understanding was not a goal. Nor did he pay attention to his thinking about teaching. He implies that any concerns he had were not engaged with; rather he worked from the assumption that "it's gotta stick, and I'd keep on working."

His focus was on teaching rather than student understanding. One of the main benefits of reflection is that it promotes in him an interest in, and engagement with both student thinking and his own thinking as central to teaching: "It's both what you thought/taught as a learner that is important." He underlines the necessary dialectical relationship between thinking and learning. In traditional classrooms the thinking of the learner is not engaged with to any great degree. The focus is on 'covering the course' or 'presenting pre-digested nuggets of material.' However in reflective practice the learner engages with learning in a dynamic, life-long process. The structures or forms of one's own thinking begin to emerge in the emergent patterns and in the issues one feels compelled to explore. One gains a confidence about sharing and developing fledgling

ideas. Surely the development of these fledgling ideas and thinking of our students should be the bread and butter of teaching. A number of key skills are being learned including skills of self-evaluation, documenting practice, and consciousness of what one is doing. There is also a sense of taking ownership of one's development:

> Keeping a portfolio fostered within me a conception of myself as learner. It also fostered my ability to be reflective and evaluative about what I learn as a teacher, about what my students learn from my practices. Keeping a portfolio allowed me to document the evidence of my learning and development. It also enabled me to document my teaching philosophy. As a student teacher the value of consciously reflecting on certain experiences and practices was immense (Margaret, HDE, 1999).

Before her reflective portfolio, Margaret construed the role of teacher as being that of 'knower.' Being required to keep a reflective portfolio that documented her practice, and that documented evidence of her growing competence as a teacher, shifted this conception. Now Margaret sees herself as truly a learner and expects teaching to be a 'life-long learning process.' There is a growing sense of confidence, ownership, and consciousness in shaping this learning process. The journal or portfolio, as text, provides the tutor also with invaluable information. It clearly gives the tutor the necessary information on students' frames for understanding teaching and learning. I have argued above that the tutor can use these frames as legitimate entry points into further conversations, reading, or research for students.

Requiring students to write about their own views, thoughts, experiences, and interpretations of teaching and learning experiences, and to take their own subjectivities seriously, significantly shifts the work of teacher development to be centrally concerned with the development of teachers as thinkers and intellectuals. Sharing reflective journal entries with peers in tutorials create dialogical structures that facilitate and support further exploration and expansion. More importantly, these dialogical structures open thinking to interrogation and public scrutiny, thus creating a culture of inquiry. Below another HDE student further elaborates this consciousness:

> Knowing I had to assemble a portfolio made me much **more aware of my teaching practic**e and style, on a constant basis. I very quickly became **conscious** of what I was doing, **mentally tagging** it at the same time as something that might be worth reflecting upon. Even at that point in class I was **mentally making choices**: Would this be worth reflecting upon in the self-evaluation sheet at the end of class? Or would it be more suitable as this week's artefact? I think I

almost became, as Nona Lyons said in her lecture, 'someone on whom nothing is lost' (Norma).

What is interesting about Norma's statement above is her awareness of her own mental processes, of her choices, and of her consciousness of those choices. The repetition of the word "mental" is telling. There is a strong sense of agency, responsibility and 'wide-awakeness' in her approach to her teaching. One wonders how long Norma can sustain such wide-awakeness without support structures in schools that promote such a disposition.

The theme of professional self-regulation is further elaborated by this MI teacher's reflection. She has new rubrics for evaluating her practice and a new sense of responsibility toward students. She can no longer hide behind "covering" the course:

> Before I would have said I've covered the course. I can't hide behind that anymore. TfU turns what I've been doing on my head. The broad picture is being brought out here. Facts are just one level of learning. You have the celebration of skills and talents of students and your own talents. TfU came about from listening carefully to students. (MI Teacher reflection).

This teacher understands that "listening carefully to students" is the central activity of TfU and good teaching. Also, the journal gives her an opportunity to bring the 'broad picture' of teaching and learning into view and to illuminate what is important for her in evaluating teaching and learning. She implies that teachers often find themselves immersed in the smaller and less important component of teaching, that of focusing on the giving students the facts. The MI teachers in their reflective conversations opened up these larger questions of "What is good teaching?" "How do we evaluate teaching and learning?" "How can we condone streaming practices and exam practices that put too much pressure on teachers and students?" and so on. This encouraged an inquiry oriented culture. This culture of inquiry facilitated teachers to interrogate practices that are supported by the conventional wisdom of educational practice. The focus on teacher as learner significantly reconceptualised teaching to be one of facilitating student understanding rather than narrating a body of knowledge. The teacher became a catalyst for authentic dialogue between teacher and student, between the student and literature, and between student and context.

Conclusion: Cultural Implications of Reflective Practice

"The tyranny of the one meaning world is a huge legacy of our educational system" (Paul Durcan, Irish Poet, RTE interview, April, 2000).

My research illustrates that above all else reflective practice invites us to examine the multiplicity and diversity of meaning in even the smallest human interaction. Teaching is above all else primarily a human interaction. In order to develop reflective cultures the prevailing cultural ethos of schools and universities, that think in terms of uniformity rather than multiplicity, must be strongly challenged. Structures for ongoing questioning, review, and evaluation must be created in order to examine the multiplicity of meanings and interpretations. Cultural norms which isolate teachers and students from each other, and which views teaching and learning as a private activity done within the confines of the classroom and the covers of a textbook, run counter to the model described here. Structural changes within universities and schools must be made in order to support the ongoing generation and review of new knowledge and practice. The internal dialogue and wondering that practitioners do on their own about their students, classrooms, and curriculum, must be given time and space in the public domain of staff-rooms, in-service training, professional training programmes and teacher centres. Teachers must be given opportunities to voice what they know and do not know, and to articulate this in the public domain with their peers.

However, the enormity of this task must not be underemphasized. Indeed, I have argued elsewhere (Rath, 1998) to actively engage in this work teachers are engaging in a counter-cultural activity since teachers are challenging heretofore unquestioned cultural norms of teaching, learning and professionalism. Therefore, to support this new activity, there must be adequate scaffolding in place that sustains teachers to become action researchers and inquirers into their practice. It is clear that practicing teachers and student teachers need a lot of direction and guidance in pursuing the kind of learner-centred pedagogy described in this chapter. Adequate scaffolding can take the form of a study group, tutorial group, network group that is mentored by a skilful facilitator. The facilitator's purpose is to guide and focus the group's work toward the ongoing improvement, and examination of practice. Without such guidance a lot of the potential learning of reflective practice can be lost.

For teachers to acknowledge (*bring to knowledge*) their rich, experiential knowledge base as classroom teachers, is indeed to teach *against the grain* (Cochrane-Smith, 1994), as teacher's voices and knowledge have been resoundingly absent from educational theorising. In foregrounding teachers' voices in the educational encounter, there is a concomitant movement and interest in making a space for students' voices and concerns. Data above show a parallel growing interest in students' sense-making process, and in the legitimacy of students' voices in classrooms, heretofore, dominated by teacher talk and textbook work. This shift emanates directly from attending to teachers' own experiential knowledge base and learning process. To ask teachers to pay

close attention to their thinking, learning, and knowing as they apply MI theory, or as they learn the complex act of teaching, in the absence of a professional culture that supports such reflections, is to ask teachers to develop a new *border language* that connects the dualistic landscapes of theory and practice, objectivity and subjectivity, distance and connectedness.

It calls on teachers to engage in the work of theorists, that is, to speculate, ask questions of, make explicit their tacit constructions of the teaching/learning world, and in so doing, to make sense of (*theorise)* the ambiguities, uncertainties, and complexities that characterises classroom life. In other words the reflective stance is a c*ounter-cultural one,* it challenges the "conspiracy of certainty" that characterises much of educational theory about classroom life. This process of theorising with self and peers, if translated to the learning environments that teachers construct with students in their classrooms, will truly create learning for understanding communities. A reflective learning model gives students many opportunities to acknowledge and reflect on their own experiential knowledge base, and to develop the capacity to articulate their tacitly held constructions of the world, and to hold these constructions up for public scrutiny. It challenges the dominant model of learning which focuses on students receiving and learning others' constructions of the world without providing adequate time and space for questioning or dialogue.

Although Irish education has had over a decade of curricular change, teachers' approach to their work seems to have changed little. That is not to say that there have not been important and innovative programmes introduced in our schools. I believe there are many important changes happening in various places in the school, but they are happening in isolation and sometimes as marginal activities. I am arguing here that the emphasis on curricular change has been a misguided one if is not connected to integrating new practices and learning into the thinking dispositions of all teachers including teachers of mainstream subjects. Curricular change must be scaffolded by adequate time and attention to teachers as active meaning makers. Behavioural change, including attitudinal change, requires much more ongoing support and mentoring than is evident in extant professional development opportunities. The vast amount of curriculum change over the last decade has placed new demands on teachers who are already hard pressed to meet the needs of a dynamic and challenging diverse student population. Irish teachers have inadequate resources, especially those of time and space, to actively engage productively in changing pedagogical and instructional practices.

Change at the behavioural and attitudinal level requires a level of support that in-service models of education rarely acknowledge. Although there has been a recognition by the Department of Education and Science of the need for whole school planning and development work, this work will be interpreted in schools as a "once off" phenomenon, if structured planning time is not introduced as an integral and substantive part of school work. Developmental work of this sort demands instructional and organisational leadership of a high calibre. There is no "uniform approach" but rather each site must develop their own approach from their own engaged 'reading' of contextual clues. However, in this approach there must be a commitment to involve all constituents and voices as important knowledge bearers and interpreters. In addition, there must be a commitment toward the ongoing examination and monitoring of practice.

This approach also demands a commitment of time and space. The success of new programmes such as the Junior Certificate School Programme, Transition Year Programmes, Leaving Certificate Applied, The School Development Planning Initiative and Educational Disadvantage initiatives depend on the capacity of all school members to engage and integrate new thinking into the mainstream cultural ethos of the school. However, there are few spaces for the integration of such thinking. Much of teacher learning in these new programmes happens in isolation rather than in collaboration. Unless professional development programmes create dialogical spaces that allow for "transformations of mind" and teacher collaboration, there will be little change in mainstream school practices. In order for the mainframe curriculum to be influenced by these programme changes, there needs to be an ongoing re-negotiation of, and reflection on, the larger purpose of education. Reflective learning and dialogue allow for such large questions to be engaged with and acted upon. Unless there is a concerted effort to firstly acknowledge current practices and then to intervene in such conceptualisations, highly resilient school practices will continue.

Teacher education programmes must provide opportunities for, and guidance in reflection, and must give teachers adequate experience in posing and engaging with the real practice concerns of everyday classrooms. At the very least, teacher education programmes must provide teachers with educational experiences that mirror those new practices that teachers are expected to enact in their classrooms. Research illustrates that without such experiential knowledge teachers will more than likely replicate their own educational experience. This point is illustrated in the data emanating from pre-service teacher's reflective journals and portfolios. Keeping a reflective journal is a powerful and necessary starting place for teachers to explicate their own 'reading' of their classroom situation, and in expanding their own knowledge base of teaching and

learning. In addition, I have argued that reflective practice and dialogue with peers provides teachers with a professional framework to begin a process of disciplined inquiry into teaching and learning from a life-long perspective, and for bringing this learning into the public domain thus influencing educational discourse.

In this time of rapid change, it seems absolutely essential that educators, policy-makers, and practitioners engage with larger educational questions of why they teach as they do, and to "*recast education as artefact"* (Grumet, 1998). Reflective cultures acknowledge the *tentativeness* of all knowledge and the *partiality* of educators' perspectives. This perspective demands that reflective teachers stay in engaged dialogue with contextual cues, and, that they have developed the intellectual capacities to constantly review practice in light of serving a dynamic and diverse context. It demands of us as educators to take *responsibility* for our constructions of education and *own* our part in these constructions. In particular, it holds the possibility of allowing us to see how our constructions of teaching and learning may be mono-cultural, and may indeed be responsible for the many *silences* and failures in our educational system. Therefore, implicit in my paper is the belief that reflective cultures promote a multi-cultural approach to education since it promotes a questioning of the cultural standpoint/perspective of the knowledge bearer, and furthermore, acknowledges and assumes that all knowledge is subjective rather than objective. In other words, reflective cultures assume that no one person, group, or theory has a *god's eye* view of reality! The teacher or leader that moves a group toward more expansive thinking can be the student, the school caretaker, secretary, or the parent who asks the critical questions that generate new thinking. This requires an openness to learn and a deeply ethical approach to our work.

It is no longer justifiable or acceptable to deny our *consciousness* of problems, of questions that need to be addressed, or to simplify and reduce educational problems by placing blame on the student, the system, or the school. Keeping a reflective journal is just one strategy to *foreground and stay with* the questions, dilemmas, and problems that form the backdrop of teaching and learning. By staying with the inherent dilemmas of teaching and learning we are in a better position to understand them and to therefore regulate them more consciously and responsibly.

In this paper, I have argued that reflective cultures give a primacy to talk discourse, a primacy that is largely absent from a traditional, didactic structuring of education. Implicit in my argument is the belief that didactic educational models function to constrain questioning and exploration, and thus *seal in* the discourse dominance of privileged groups. Such a sealing in is no longer acceptable in a society that is moving

toward great diversity and change. We must for the first time acknowledge that didactic, traditional, educational practices may be the "best system" for developing good followers of procedures and a compliant workforce in a stable system. However, we are living in a time of great change. We especially need structures and thinkers that can generate new possibilities and imagine new worlds. We need thinkers who can stay in engaged dialogue with the most complex problems and who have the mind capacities to solve these problems. We also need thinkers who can collaborate productively with many different actors coming from different cultures.

Ultimately one hopes that reflective teachers reframe educational strategies as dynamic, constructed, and contextually bound. Understanding the self as context for constructing understanding is central. Ultimately one hopes that teachers experiencing and articulating their own connected voices and knowledge constructions will be challenged to begin the difficult work of critically applying that to their classroom practice. Teachers documenting their own understandings and taking responsibility for the development of that understanding are acknowledging the inherent *partiality* of all worldviews and the constant need for review and revision in creating more inclusive, expanded views. This is particularly important in creating spaces for silenced and oppressed groups to participate in education and society. Therefore, students' voices and models of the world will then become integral to the educational enterprise. Dialogue and relationship will be the mediating force. Knowledge will not be decontextualized and disembodied rather it will be contextualized and embodied within the lived experiential world of the student and teacher. Traditional classrooms will become constructivist ones.

I have argued that reflection affords one way for silenced groups, in this case, practitioners and students, to actively participate in shaping and *transforming* educational discourse. The development of texts, in this case, reflective journals and portfolios, offers a pathway and voice to teachers and students whose voices have been resoundingly absent from dominant discourses and research traditions. Rather than an uncritical acceptance of cultural values, ideology, and power structures, students and teachers are involved in generating their own practice and experientially based theories. This is a counter cultural stance that many teachers may resist, and that indeed may be dangerous for some teachers to engage with, given the dominant cultures of schools as conservative organisations. We especially need to address those prevailing cultural and institutional norms that do not promote dialogue and sharing of expertise, and that isolate teachers, teacher educators, policy-makers and students from each other. In addition, we must address conceptions of teaching and learning that run counter to research on best practice, and that deems inquiry as unprofessional and unworthy. We

need educational frameworks that adequately and appropriately scaffold, guide, and mentor this kind of personal and professional work. In other words, I am arguing for a pedagogy of transformation.

SUMMARY AND CONCLUSIONS

Áine Hyland

As indicated in the Introduction to this report, the *Multiple Intelligences, Curriculum and Assessment Project* at University College Cork was a collaborative project carried out between 1995 and 1999. The key research question focused on whether Howard Gardner's theory of Multiple Intelligences could be applied to, and enhance, aspects of curriculum and assessment at primary and second level in Ireland. The project involved educators from all levels and sectors and included an action research component, which involved over thirty teachers from primary and second level schools in the Cork region. It focused in particular on the subject Civic, Social and Political Education; on the interface between primary and second level and on Transition Year. The project also involved students enrolled in courses in the Education Department of UCC during the period, particularly student teachers on the Higher Diploma course in Education; teachers on the inservice Higher Diploma course in Curriculum Studies (CSPE); and teachers taking certain modules of the Masters in Education course. The various elements of the project have been described and discussed in Chapters 2 to 6 of this report.

As well as researching the implications of MI theory in Irish classrooms, the project also set out to influence local and national educational policy at a time of considerable change and innovation in curriculum and assessment in Ireland. As discussed in the Introduction, the period of the project saw many changes in attitudes and approaches, especially to assessment, which were to affect the direction and the work of the project. The resistance of some second-level teachers to assessing their own pupils for national certification purposes meant that it did not prove possible at national level to introduce elements of assessment which required the participation of the student's own teachers. However, in spite of these difficulties, the debate and the work on developing modes and techniques of assessment at national level continued and the Project contributed to this in a number of ways.

Influence of the Project and Dissemination

During the life of the Project, five issues of the *MI Bulletin* were issued and widely disseminated. These bulletins sought to update their readers on the work of the Project and included articles by some of the participating teachers in which they documented their work. The report on Phase I of the Project, *Towards New Understandings: Assessment and the Theory of Multiple Intelligences* edited by Joan Hanafin, was widely disseminated as was the collection of essays *Innovations in Assessment in Irish Education,* edited by Áine Hyland and published in autumn 1998. This publication

contained essays on assessment at various levels of Irish education including the Junior Certificate Schools Programme, Transition Year, the Leaving Certificate Vocational Link Modules and the Leaving Certificate Applied.

In Summer 1996, those attending the UCC Summer course on Multiple Intelligences included an assistant chief inspector of the Department of Education who had overall professional responsibility for teacher in-career development. This inspector was also responsible at the time for the development and implementation of the Transition Year Programme and for the co-ordination of in-career development for second level teachers in subject areas where syllabus revision had occurred. Others who attended the course included members of the national co-ordinating team for Transition Year and for Civic, Social and Political Education. The Steering Committee of the MI Project included the assistant chief inspector, representatives of the Department of Education and Science and of the National Council for Curriculum and Assessment as well as academic staff from UCC and from other universities.

During the course of the project, a number of public seminars were held including one on assessment in November 1997. Members of the Project team accepted invitations to speak at various seminars, workshops and meetings and they contributed to a wide range of seminars and workshops throughout the country. An indicative list of these events is provided in the Appendix. These included meetings of students, parents, teachers, and management bodies, as well as special interest groups such as subject associations– at pre-school, primary, second and third levels. They also included groups involved in youth work, community education, Youthreach, the Vocational Training and Opportunities Scheme, the National Adult Literacy Agency, and other organisations with a special focus on providing second chance educational opportunities for early school leavers. Many of these events were facilitated by Marian McCarthy, whose particular expertise and skills in the area of active learning and MI related strategies in the classroom were in considerable demand.

Perhaps the most sustained and ambitious series of seminars was that given in 1998/9 by the director and research fellows to the principals and staff of all the primary schools involved in the (urban) Breaking the Cycle project – a total of 32 schools in Dublin, Cork and Waterford. This series took place over eleven days and was attended by over 400 teachers. While it is difficult to quantify the effect of the various talks and seminars, it is estimated that in the period 1996 to 1999, well over five thousand students, teachers, parents and members of the public attended the various events in Ireland. Many of these in turn disseminated what they had heard to other audiences – this was

particularly true in the case of principals and individual teachers who reported back to their school staff.

The director of the project, Áine Hyland, was invited by the Minister for Education, Micheál Martin, to chair the national Commission which reviewed selection for and entry to third level education – which reported in December 1999[38]. She was also invited in April 1999 to address the Education Officers of the National Council for Curriculum and Assessment on issues relating to assessment. Many of these occasions were attended by prestigious national figures, including the Minister for Education and Science, the Secretary General of the Department of Education, the Chief Inspector of Education, and Chief Executives of bodies such as the National Council for Curriculum and Assessment and of the National Council for Vocational Awards.

Members of the MI team also accepted invitations to speak abroad. The research fellows, Pat Naughton and Marie Flynn, spoke at a European Research conference in Slovenia in autumn 1998. They also contributed to a workshop on Multiple Intelligences at the annual conference of the Association of Teacher Education in Europe in 1998. The director addressed staff and students of Newman College, Birmingham in March 1998 and presented papers at two international congresses in Guanajuato, Mexico in 1998 and 1999 attended by many thousands of teachers and educational administrators from all over the world. In November 1998, she addressed the Governing Body of the Centre for Educational Research and Innovation of the OECD in Paris and at the Summer Institute in Harvard in 1999 she reported on the preliminary findings of the project.

An unexpected opportunity for disseminating the work of the project and for influencing national policy arose from September 1997 onwards when a number of the participating teachers on the project were appointed to national positions as school inspectors, national curriculum advisers and members of national training teams for new curricula. While these appointments meant that some excellent teachers were lost to their classrooms and to the UCC MI project, it was recognised that they would be in a position to influence a wider audience in their new positions. Subsequent developments showed that this proved to be the case.

Outcome of the Project

In considering the outcome of the project, one might bear in mind the different audiences affected and/or influenced by the project. These might be categorised as

(a) national and local policy makers, including curriculum advisers and school inspectors

[38] Commission on the Points System: *Final Report and Recommendations* Dublin: Stationery Office, 1999.

(b) educational administrators
(c) teacher educators, involved in both initial and in-service education
(d) practising teachers
(e) student teachers
(f) parents
(g) students and pupils at various levels.

Effects on national policy makers

It was noticeable as the project developed that persons in prestigious position in Irish education began to use the language of MI in talks and speeches. For example, in a speech at the awarding of certificates to Leaving Certificate Applied graduates in November 1998, the Minister for Education and Science, Micheál Martin, T.D., referred to opportunities within the LCA for students to learn "through their multiple intelligences" and to demonstrate this learning in multiple ways. And in March 2000, the same Minister, who now has responsibility for Health and Children, praised the organisers and sponsors of a national Fashion Competition for Transition Year students for providing an opportunity for young students to apply their multiple intelligences in the design and creation of original futuristic costumes. 39 Other key policy makers whose speeches and writings reflected MI and TfU language included the Assistant Chief Inspector and a number of inspectors, the national co-ordinator of Transition Year, members of the Leaving Certificate Applied national team, the national co-ordinator of the Breaking the Cycle (Urban), the assistant director of the National Council for Curriculum and Assessment, and the National Director of Youthreach.

The influence of MI and TfU also became increasingly apparent in documentation from the National Council for Curriculum and Assessment. The Revised Primary School Curriculum (published in autumn 1999) places particular emphasis on understanding. Its aims include the following:

- To enable children to come to an understanding of the world through the acquisition of knowledge, concepts, skills and attitudes and the ability to think critically
- To enable children to apply what they learn to new contexts in order to respond creatively to the variety of challenges they encounter in life
- To enable children to develop a respect for cultural difference, an appreciation of civic responsibility, and an understanding of the social dimension of life, past and present
- To enable children to develop skills and understanding in order to study their world and its inhabitants and appreciate the interrelationships between them

- To enable children to develop personally and socially and to relate to others with understanding and respect (p. 34).

This emphasis on understanding is also evident in the Junior Cycle second level programme, which includes among its aims:

> "To reinforce and further develop in the young person the knowledge, understanding, attitudes, skills and competencies acquired at primary level;
>
> To extend and deepen the range and quality of the young person's educational experience in terms of knowledge, understanding, skills and competencies".

The emphasis is even more evident in specific areas of the primary curriculum. For example, the curriculum for Social, Environmental and Scientific Education:

> seeks to enable the child to come to an understanding of the physical world, the relationship of humans with their environment, and the historical process through which that relationship has grown. In developing this understanding, the curriculum helps the child to acquire open, critical and responsible attitudes and to live as an informed and caring member of the local and wider communities.

A similar emphasis is evident in the Mathematics curriculum where the aim is to enable the child "to develop an understanding of particular and important dimensions of the physical world and of social interactions". (p. 47). The curriculum for Social Personal and Health Education provides specific opportunities "to enable the child to understand himself or herself, to develop healthy relationships, and to establish and maintain healthy patterns of behaviour" (p. 57).

The review of the Junior Cycle published by the NCCA in March 1999[40] also reflected the influence of MI and TfU theory. In the discussion of the impact of current assessment practices on teaching and learning at second level, the report states:

> If assessment is concentrated on the verbal and logico-mathematical, and students engage in that assessment solely through paper and pencil tests, then it is likely that the teaching and learning styles will reflect the same bias…. Such a bias in teaching and learning is at odds with the principles of breadth and balance,

[39] Speech by Micheal Martin, Minister for Health and Children at the opening of the Coca-Cola sponsored Fashion Competition in Ballincollig Community School, Cork on 31st March 2000.
[40] National Council for Curriculum and Assessment, *The Junior Cycle Review, Progress Report: Issues and Options for Development,* Dublin: NCCA, March 1999.

which underpin the curriculum at junior cycle, and with the active learning methodologies envisaged in the development of the Junior Cycle Programme.

Effects on Teacher Educators, Student Teachers and Practising Teachers

Teacher educators in University College Cork (i.e. lecturers in the Education Department) became increasingly involved in and influenced by MI and TfU theories as the project developed. As already mentioned, six members of faculty attended at least one Summer Institute at the Harvard Graduate School of Education during the period of the project. These and other faculty members introduced MI and TfU theory when appropriate and relevant in their teaching, and student teachers and teachers attending courses in UCC became increasingly familiar with these theories. In many subject areas, a TfU approach was taken in methodology and practicum modules in both initial and in-service courses. Considerable information and data has been built up on attitudes and responses to MI and TfU from projects, essays and examination scripts submitted during the academic years from 1997/8 onwards, as well as from the data provided by the teachers who participated in the action research elements of the project. These data provide the basis for the main body of this report.

Effects on Pupils in Schools

While some written information was provided by pupils through their reflective journals on their views and attitudes to MI, most of the evidence in this regard is second hand (i.e. provided by teachers) and much of it is anecdotal. However, some interesting comments from pupils of various ages are included in chapter 2 and 3 of the report.

Effects on Parents

During the course of the project, a number of parent groups invited members of the project team and project participants to meetings to discuss the implications of MI theory for their children's learning. These included the National Parents Council at both primary and second level, parent associations in individual schools, groups of parents with "special interest issues" such as the parents of children with specific learning difficulties and parents of gifted children as well as many others. At such meetings, the theory of MI was greeted with a sense of excitement and a realisation by parents of its educational potential. The Project was unable to meet all the demands for talks from parent groups and the team did not work in any systematic way with either individual parents or parents associated with any school or group of schools. This is an area which has considerable potential in this country, where many parents have an unduly narrow understanding of intelligence and ability and sometimes fail to recognise the diversity and richness of their children's intelligences and potential.

Reported Benefits by Teachers of using MI approaches in their teaching

The following paragraphs provide an overview of the responses of teachers regarding the benefits of using Multiple Intelligences approaches in their teaching. These are extracted and summarised from chapters 2, 3 and 5 of the report.

MI provided a way to naming and thinking about practice and provided greater access to Learning

Many teachers became more aware of their own intelligence profiles and that of their learners and attempted to match their teaching styles accordingly. This meant the opening up of more avenues to learning than would previously have been the case. MI teaching and learning strategies provided different methods of unlocking different gateways to learning. Teachers sought to match their teaching styles to the diverse range of intelligences before them. In the words of one teacher:

> MI is a positive philosophy in education, which looks for strengths in people and really values them. In the MI classroom, we use these strengths as doorways into learning. Teaching with MI means reaching for a story, a poem, a drawing, a song, a quiz or a dance. In short anything which will help a child to connect with a concept or new skill.

Greater Learner participation

A majority of teachers on the project commented that student participation was enhanced by MI approaches. This was mainly as a result of group work approaches and project work. Several teachers found that participation levels were enhanced because of novelty or using game type approaches. Allowing children to take responsibility for their learning also appears to have been a contributing factor. Teachers reported that when they were "less directive," student participation increased. One teacher reported that the main approaches adopted in his classroom consisted of "pupils teaching pupils, pupil-to-pupil communication, (and) pupils assessing pupils' work". He commented that the lesson was conducted "without any input from me, other than at the planning stage".

More contributions from students

Data from the project indicates greater levels of interaction amongst learners than had previously been the case. Teachers reported that some students expressed themselves a lot more within the context of a smaller learning group. The realisation that it was OK to be wrong enabled greater participation and generated consultative and discussion about possible alternatives: "If they got one (answer) wrong, they did not want to be told which one was wrong and set about figuring out which one".

Greater Student Interaction

Many of the teachers reported greater participation in the form of increased interaction between peers. One teacher who focused particularly on interpersonal strategies – "brainstorming, categorisation of information, group discussion and planning, group tasks, group presentations, group teaching other groups, group evaluating other individual's understanding / recall" reported that "in addition to increased understanding of code use and pattern, this class helped to develop interpersonal relationships and communication between pupils who wouldn't normally interact".

Increased Responsibility on the Part of Students

Some teachers reported that the use of MI strategies increased pupils' sense of responsibility, as they increasingly took responsibility for various tasks. One teacher found that when her pupils were involved in group work, "they were excellent at providing tasks for each person". However they did not always allocate tasks appropriately. The same teacher wrote "in some cases she had to change people as they were frustrated with their task. It wasn't their forte".

Lack of alienation

Some teachers reported that MI approaches, where attempts were made to match teaching and learning styles, enabled students to participate a lot more, and avoided the boredom they may otherwise have experienced. Where teachers set up structures to allow for greater peer interaction and participation, there appeared to be less alienation. In general, participation levels appear to have been enhanced when teachers used different approaches to learning in their classrooms.

Improved Learning Outcomes

Teachers reported a number of improved academic and affective outcomes as a result of MI approaches in their classrooms. Enhanced academic outcomes ranged from improved attention, concentration and memory to greater understanding and ownership of lesson content. One second-level teacher commented: "the achievement level in tests was well up. They would've been scoring in the 80s where they normally wouldn't have, so it did help their self-esteem". A number of factors influenced better academic and social outcomes. Multiple representations of content were particularly significant, with teachers commenting on the value of visual-spatial and interpersonal approaches in particular. Drawing on students' own experiences was also an important factor: "Understanding was enhanced because they could make connections all the time with their own experiences".

Interest in Subject

Teachers in general reported that their students were more interested in subjects as a result of new approaches. In relation to learning Irish, one student stated:

> Before the MI programme, the restricted type of teaching caused me to dislike the language and to hold back from wanting to learn it, but by using different approaches a desire to learn the language has been fostered once again …. Previous methods of learning were kept to a strict plan and varied little from grammar rules and essay writing. The MI programme includes far more varied methods of Irish and Irish culture. Céilís, table quizzes etc. have all helped me to see a side of the Irish language that previously I had not known existed.

In addition to the above aspects, teachers found that pupils demonstrated greater ownership of the lessons to which they had been introduced; they reported greater enjoyment of lessons and seemed to have gained greater autonomy and a sense of empowerment from their learning.

Reaction of Teachers to the TfU Approach and Framework

The following representative quotations give an idea of what teachers thought of the Teaching for Understanding framework. The following quotations are taken from the responses of the teachers on the Higher Diploma in Curriculum Studies (CSPE) course:

> The TfU framework is a useful guideline in helping teachers to focus on students' understanding. The four elements outlined in the framework are useful in guiding the teacher to create a learning environment, which concentrates on promoting understanding.
>
> CSPE is not and cannot become an area where students learn to store information in preparation for a terminal exam. We know that pupils are very capable of giving the 'right' answer, the ethos of CSPE requires more than that. Teaching for understanding can provide an opportunity for students to be citizens rather than just knowing about them.
>
> To turn activities (writing/acting/drawing) into performances of understanding, I as teacher must introduce an element that challenges students (to) present thinking. For example, rather than using drama in education methodologies to demonstrate different communities I can combine this method within a teaching for understanding framework to ensure students take their learning further.... The main question to ask is "Can my students do this and not understand?" Can pupils carry out role-plays related to issues of justice and not understand the

> concept of justice in its many forms? By encouraging other students to explain and interpret what they see, compare body language to gesture and evaluate end results, I can at least further their thinking on a topic.
>
> The emphasis placed on throughlines and on unit-long understanding goals was particularly useful in helping me to think about what I wanted the students to learn and gave me a focus when planning the performances of understanding which followed
>
> The attention given to ongoing assessment is a powerful feature of the framework. Because of the shift in emphasis from a terminal written examination, particular attention needs to be devoted to providing ongoing assessment when using an MI approach, in order to facilitate feedback for the students and teacher on how learning is progressing. By assessing understanding along the way one can also identify what is left to do and where to proceed next.
>
> Students will understand if they are actively involved in the learning process. It is important for the teacher to ask herself how she knows that understanding / learning has taken place. When one observes the students carefully making a presentation or working together one can see that learning is taking place. Pausing regularly to reflect on what has happened is very important for TfU and also regular note-taking. I encourage my students to take whatever notes they choose…

Teachers involved in the Action Research element of the Project indicated that even though understanding had always been a goal in teaching and learning, it was one they had not always consciously pursued.

> I have always set my faith in standardised tests - they have been a kind of security for me. But now I realise that 'the legs are not secure on the table'. I believed that if you teach something often enough, they will eventually catch on. Now I see that I must approach it from the other end as it were, from the aim of achieving understanding.
>
> I've always justified myself by saying "I've covered the course – they either know it or they don't". With the emphasis on pursuing understanding, I can't do that anymore. What we've done here has turned my idea of teaching on its head.

A teacher of Chemistry claimed that MI/ TfU enabled him to teach concepts more easily:

> I saw kids enjoying themselves as much at understanding science as they would playing a football game. What we have done here is to shift the goalposts; we've changed the rules of the game and let more people in.

Teachers also said that they now looked more critically at what elements of understanding there were in their teaching, and realised that much of the time, students did not understand as much as teachers thought they did.

While teachers experienced some difficulties with the teaching for understanding framework, the general feedback from teachers who used the framework was that it provided a coherent structure, if a challenging one, for their curriculum planning.

Views of Teachers on ongoing Assessment, especially Portfolio Assessment

As was reported in Chapter 3 of the final report**,** many teachers on the Project acknowledged that developing and applying appropriate ongoing forms of assessment proved to be the most challenging part of the Project. Throughout the Project, it can be seen that questions of assessment proved the most difficult to address. Recurrent over the period were statements from the teachers expressing on the one hand their enthusiasm for the broadening of assessment approaches to capture a more holistic – and cumulative – picture of a student's learning, while on the other hand, many felt that they lacked the expertise to do this. In addition, they wondered how they could positively influence the existing system within which they had the professional responsibility to prepare students for high-stakes assessment in the examinations.

Surprisingly, given that primary pupils in Ireland are not subjected to regular national testing in the way that their counterparts in the US and the UK are, primary teachers encountered many of the same difficulties with ongoing assessment as their second-level colleagues. Teachers in senior classes in primary schools indicated that they still felt pressurised by the so-called "entrance examinations" which continue to be a feature of some second-level schools, although schools are no longer allowed to use these examinations as a form of pupil selection. Many teachers, and obviously pupils and their parents, still perceive these entrance examinations as a form of "high-stakes" assessment and spend much of their class time in the final year preparing their pupils for these examinations.

One of the consequences of this was that teachers viewed the portfolio – which the Project proposed as a potentially valuable assessment approach – as a technique more likely to serve as an aid to learning rather than as an assessment tool. However, in classes where summative assessments were not an immediate prospect, a number of

teachers opted to use a portfolio as a means of recording student work, as well as of demonstrating and celebrating student achievements. Some teachers also got their students to keep a reflective journal, through which the students would consider their own work and the ways in which they learned best.

On the value of ongoing assessment, the teachers commented:

> The development of self-esteem and ownership of one's own learning were fostered in the continuous assessment which took place during the entire work process

> . . the emphasis on ongoing assessment is very helpful especially in a year when there are many distractions for students, no textbooks, little formal homework and few conventional tests and exams.

On the particular virtues of portfolios, the teachers said:

> At this time of the year (in the summer term), you tend to lose students' interest, but with the portfolios, that didn't happen this year - [we have] a portfolio evening coming up for parents. We haven't had enough time to be selective about the portfolio contents, but it has kept them focused. I certainly think that the portfolio allowed them to show their strengths, whether that was in artwork, organising materials, presentation or whatever.

> Reflection and observation played a huge part - when they come in on a Monday, they take out their portfolios and I'm just there to watch what's happening. There is no aggression, no conflict in the class. In the beginning of the year, there were one or two who were very shy about others looking at their work, but they'll go to anybody now. Their social skills in that area have improved tremendously and their willingness to be vulnerable really, when they are asking someone else to look at their work

The Transition Year teacher who used portfolios for recording his students' work placement told of his difficulties with the portfolio:

> The folder / portfolio primarily marked only achievements and many were accompanied by certification. There is need now for evidence and data suggesting a "moving towards" attainment, not just completion, achievement and certification. A system will need to be put in place

> which will help to identify individual progress. How for instance does one assess growth in attitudes, motivations, social conduct and values? I am sure that there are ways but are they time-consuming, are they accessible, are they easy to evaluate?

As this teacher notes, this was an example of a portfolio being used principally as a display of certified achievements. It differs from most other examples on the Project, which aimed to show the range of student work in progress, and largely allowed students to decide the content. The different approaches adopted by teachers to the use of portfolios demonstrate the potentially diverse and flexible interpretations of the portfolio concept.

At the seminar on assessment organised by the Project in November 1997, a representative of the National Council for Vocational Awards (NCVA) explained that from an NCVA perspective, the purpose of the portfolio was to give the student a summative grade based on the attainment of certain pre-defined criteria. Noting that the portfolio contained a broad range of student work, she stressed the importance of matching the form of assessment with the desired learning outcome. In other words, the ability to perform a task was assessed by requiring the student to perform that task, rather than just write about it.

> This form of assessment [portfolio assessment] values individuals who do not show their potential through traditional modes of assessment, where many people cannot achieve well because their skills, talents and behaviours are not capturable on paper in two hours in June.

This example of a form of national certification using portfolio assessment would appear to have considerable potential for mainstream education in Ireland in the longer term.

Obstacles to Implementing MI strategies etc.

Generally speaking, teachers at both primary and second level found that it was feasible, within the framework of the national curriculum at both levels, to apply MI and TfU approaches in their teaching across a range of subject areas. The teachers' handbooks at primary level (particularly the revised handbooks of 1999) not only recognise the value of directed discovery learning and an experiential approach, they encourage approaches to teaching, learning and assessment which are congruent with MI and TfU approaches. Similarly at second level, the guidelines for the various subject areas, with their focus on understanding, provide many opportunities for applying MI and TfU strategies.

Having said that, however, it was a widely held view among the teachers on the project that features of the learning environment, especially at second level, militated against the implementation of MI / TfU approaches. Second level teachers reported that short lesson periods and other timetabling arrangements, rigid subject boundaries and class allocation policies were factors inhibitory to MI approaches. Second level teachers found that integration across subject areas, for example, was very difficult to organise and that learning activities requiring more time than the normal class period could not be undertaken. The traditional forty minute class period made it very difficult, if not impossible in some cases, to undertake project work and to activate MI strategies.

However, several further factors were identified as even greater obstacles. The first was the prevailing view of intelligence as a unitary and fixed capacity – indicated by linguistic and mathematical abilities; secondly, the equation of this measure of intelligence with a student's 'ability', and thirdly, the influence of the terminal examinations on the learning environment of the school. Thus, the way the school 'community' thought about and talked about intelligence and ability was arguably the greatest determinant of what could be attempted by any individual teacher.

Teachers at both levels were at one in saying that they felt obliged to pursue coverage at the expense of depth. In each case, the principal villain was identified as the focus of the (mainly) written examination. Not only was it the narrow form of the assessment that was highlighted, but also the 'high stakes' character of it. While at second level, this was tied in to the Points System and access to third-level colleges, at primary level the assessment was effectively 'high stakes' because it was perceived to determine possibilities and opportunities for students from the outset of second-level schooling.

The lack of congruence between the national curriculum guidelines at second level in this country and the modes and techniques of assessment for national certification have been commented on in many recent reports and documents[41]. The findings of this project add to the evidence that "assessment is the tail that wags the curriculum dog[42]" and that it is pointless to have inclusive and forward looking curriculum guidelines if there is little or no follow-through from these guidelines to the national assessment system.

Primary teachers are in a more autonomous situation than second level teachers, as they can to a large extent, determine their own class timetable and can organise their

[41] These include the Final Report of the Points Commission (1999) and the NCCA Review of the Junior Certificate (1999).

classroom to fit their own practices. In this regard it was somewhat surprising to find that many primary teachers on the project felt constrained by school traditions and practices, even more surprising to find that the inspector was regarded in one case as a constraining factor. The continuing practice of many second level schools in the Cork area of setting entrance examinations for prospective pupils is particularly frustrating. It is now more than a decade since the Minister for Education outlawed entrance examinations for selection purposes to second level schools and this continues to be official policy. The fact that some second level schools argue that these exams are used for purposes other than selection (e.g. streaming or banding) does not justify their continuing existence. Many of the sample entrance examination papers, which came to our attention during the course of the project, are particularly inappropriate in the context of the current primary school curriculum. They are not based on either the primary school curriculum (1971 or 1999 version) nor indeed are they based on the second level junior cycle curriculum. In many cases these exam papers are remnants of history, recycled on an annual basis for almost half a century, without consideration of their (in) appropriateness in the year 2000.

However, on a more positive note, one of the strengths of the MI Project was to bring together, in many cases for the first time, teachers from both primary and second level in closely associated geographical areas of Cork. In Chapter 4 of the final report, the positive benefits of this interaction are chronicled and the potential of Portfolio assessment as a means of providing information for second level schools of the intelligences, achievements and potential of their incoming pupils, is highlighted.

Changing Teachers' Practice?

Most of the teachers who participated, felt that the Project brought about a change in the methodology used by them, and in their thinking about teaching and learning. When asked what they had gained from the Project, teachers involved in the action research element proffered the following comments:

> An appreciation of my own intelligences and an awareness of the child's multiple intelligences (Primary teacher)
>
> A new perspective on possibilities for enhancing my teaching (Primary teacher)
>
> The confidence to stay out of my safety zone for longer periods (Second-level teacher)
>
> Support for my own style of teaching which dares to go beyond the "technical model" (Second-level teacher)

[42] Andy Hargreaves, Lorna Earl and Jim Ryan *Schooling for Change: Reinventing Education for Early Adolescents* London: Falmer Press, 1996.

Impetus to try new ways (Second-level teacher)
A shift of emphasis from teaching to learning and understanding (Second-level teacher)

In other words, the teachers perceived the Project as having value in a range of dimensions. Firstly, these were at an *awareness* level: issues were raised about the nature and in particular about the diversity of intelligence; about how people learn, and about "how children think". At this personal level also there is reference to "understanding" that teachers have gained, "confidence" that they have developed, and "enlightenment". Coming through these responses also is evidence that the Project led teachers to question fundamental aspects of their teaching, not just the 'how' of it, but also the 'why'. "A rethink about teaching", one teacher calls it; others refer to a 'new perspective', 'new questioning', 'greater insight', and "a broad vision of what our society should consider as educationally valuable".

Secondly, it is noticeable how the Project, in effect, affirmed some teachers in their style of teaching, confirming their beliefs about what teaching should be. For one teacher, it gave the "confidence to pursue strategies which I have always had an instinct for, but which might have appeared unconventional"; for another, the "confidence to continue 'experimenting' in the classroom"; for yet another, the Project had given "a theory to underpin practice". One of the significant values of exposure to MI theory and Teaching for Understanding for many of these teachers was in its validation of their instinctive feelings about teaching, an affirmation of their beliefs about learning and about intelligence.

Teachers on the Project appear to have gained confidence and strength from the dialogue in which they engaged. This is also evident in references to a renewed sense of purpose in one's teaching:

- I would have learned a lot but more importantly, I realise that there is so much more to learn.
- I would now approach my teaching and students' learning differently.
- A new perspective on possibilities for enhancing my teaching.
- I have developed a clearer and challenging understanding of how much more I can give and have returned to me in working with children through the different intelligences.
- Confirmed [my] desire for, and value in innovation for the students' benefit.
- I have learned and will hopefully continue to learn how to enrich pupils in my care

Finally, the 'nuts and bolts' of teaching are prominent in teachers' references, who regarded themselves as having gained

- New teaching strategies
- New planning skills
- A structure to improve my own teaching.
- Sets of re-usable lesson plans
- A new method of teaching my subjects.

These responses provide further evidence of the desire among teachers to improve their classroom practice, as well as enhancing their theoretical understandings. The frequency of reference to the interaction of theory and practice in the Project serves as a further caution against separating theory and practice in in-career development for teachers.

A Year Later

Almost a year after the conclusion of the action research stage, the teachers were surveyed to determine the extent of the residual effects of MI theory and the TfU framework on their thinking and practice. The following responses are representative:

> Less constant influence but at least once a day I avail of TfU or MI approaches. The one I've yet to get my teeth into is portfolio work. (Primary teacher)

> I miss my MI fix – a lot! I never really got a handle on TfU-MI practice and portfolio stuff are now part of my “kitbag'”. (Primary teacher)

> I always believed in MI and the Project showed me how to incorporate it into my teaching. The TfU graphic organiser has made me rethink my whole approach to planning, and involving students in assessment is quite exciting and challenging. (Second-level teacher)

> It has firmly consolidated the fact that knowledge is nothing without understanding. By understanding, the student has achieved something. This results in improved self-esteem without reducing ''exam potential''. (Second-level teacher)

> “Throughlines” have changed order of topics I now teach. My entry points are now more varied. MI techniques have changed the way I teach a topic. (Second-level teacher)

Lessons Learned from the Project.

The findings of the Project are very encouraging in a number of respects. The willingness of experienced and successful teachers to engage with new learning theories and to apply them to their daily practice was most commendable. The enthusiasm of these teachers and their willingness to become involved in the hard slog of an action research project for two years was admirable. During this period they recorded their practice, shared their experiences, reflected on their practice, subjected themselves to evaluation by their peers and by the team etc. and then started the cycle again.

As an exercise in effective professional development at a time of educational change, the approach taken by the Project would appear to have much to offer. The effectiveness of the Project as a form of professional development has been highlighted in the report of the External Evaluator. It is significant to note that the teachers who were involved in the Action Research element attended seminars and workshops in the university for an average of over thirty hours for each of the two years of the project. The teachers who enrolled on the graduate courses attended MI and TfU related sessions for about fifty hours each year. All of these teachers, by writing up, reflecting on and sharing their experiences, contributed to extending our knowledge on effective teaching and learning.

The interaction between faculty staff, research fellows, research assistants, experienced teachers and beginning teachers added a richness and diversity to the Project, which was unforeseen at the start. The inclusive approach, which was a *sine qua non* of the Project, proved to be very effective. The richness of involving a University education department, where different academics with different strengths contributed to the overall project, and in turn fed the findings of the action research into their teaching, should not be underestimated. The number of teachers and potential teachers affected by an approach of this kind over a period of years is considerable and this can lead to a culture change in schools throughout an extended geographical area. In the case of UCC, where two hundred beginning teachers are enrolled every year on the Higher Diploma course in Education, and where a further two hundred are enrolled every two years on various post-graduate courses, over a thousand teachers and prospective teachers were directly influenced by the findings of the MI project during the period of the project.

The Project highlighted the contribution which can be made by a university to the ongoing development, in its hinterland, of a professional body such as teachers. The Project was a learning experience, not only for the teachers involved, but also for the members of faculty involved i.e. the teacher educators. The opportunity to build up and

maintain links with a major international research project such as Project Zero was an invaluable opportunity for UCC and especially for the members of faculty who were directly involved, to extend their horizons.

The potential of school/ university partnerships has been commented on by a number of educational writers in recent years[43]. Michael Fullan refers to such partnerships as "a new way of life, not just another project". He maintains that these partnerships have the potential to change the culture both of the schools involved and the culture of the university. He states that during the process of partnership

> the culture of the school and the culture of the university change and begin to overlap in organic ways. Conducting inquiry, for example, becomes the interest of teachers as well as of researchers, and implementing new school-based professional development practices becomes the concern of college professors as well as of lead teachers and administrators…. We need powerful strategies for powerful change; the university / district partnership is one[44]

The views and attitudes of the participating teachers, as quoted throughout the report, are almost invariably positive. We are conscious that action research projects of this kind, where teachers have an opportunity to reflect on their teaching and to share this reflection with colleagues, are an effective means of professional development, regardless of the focus of the project. The potential benefits of such projects are discussed at length in Chapter 6 of this report. Consequently, the positive comments of the participants and their perceptions of the benefits to themselves and to their pupils of the Project, might be seen to be as much a result of the reflection and sharing inherent in the process of the action research, as of the MI and TfU theory and strategies.

A further lesson to be learned from this Project lies in the extent to which an innovation which is timely and relevant, can have influence not just locally but nationally. Ireland is a small country and in recent years there is a great deal of interaction between policy-makers and the educational partners. Educational change has been based on a partnership model with a great deal of sensitivity to what is culturally appropriate. At the same time, policy-makers have been anxious to take account of the findings of international, national and local research findings, and relevant projects such as the UCC

[43] See for example M. Barber and R. Dann (ed.) *Raising Educational Standards in the Inner Cities - Practical Initiatives in Action* (London: Cassell, 1996).

[44] Michael Fullan with Suzanne Stiegelbauer *The New Meaning of Educational Change* London: Cassell, 1991, p. 323.

MI project can have an influence on national policy in ways that would be much more difficult in other jurisdictions.

Having said that, research such as this can also highlight incongruities in the national education system. For example, the findings of this Project point to the lack of congruence between national curriculum guidelines and modes and techniques of assessment in the national examinations at second level. The findings indicate that even though the national curriculum guidelines facilitate and encourage the type of teaching and learning approaches which are congruent with MI and TfU strategies, the national examination system does not necessarily reward such approaches. Hence, paradoxically, the examination system can act as a disincentive to teachers to engage in teaching and learning strategies which might best achieve the goals and aims of the curriculum.

It is evident from the findings of the Project that it is very difficult for a lone teacher in a school, to act against the culture, tradition and practices of that school. This is especially the case at second level, where a teacher is only one of perhaps seven or eight teachers who are involved on a daily basis with any one group of pupils. There is very little tradition in Ireland of group or team teaching in second level schools. It is clear that in any further work which might be undertaken in following up this project, the focus should be on schools – not on individual teachers, however challenging this might be. Particular emphasis should also be placed on providing support for principals, whose leadership role in the educational change process is crucial.

In this regard, it is worth mentioning that as an offshoot of the project, the Director and members of the team facilitated a series of staff meetings in one second level school in Cork which was drawing up its School Development Plan during the period of the Project. A number of teachers from that school were participants in the project and others were enrolled on post-graduate courses in the Education Department. The overall experience was a very rewarding one and the school's Plan reflected elements of MI theory and of TfU, especially teaching through and with the Arts. That same school has since taken part in the national pilot project on Whole School Evaluation and the external evaluation team had very positive comments to make on the Plan itself and on its implementation. This suggested focus on a whole school approach in any future projects is in line with national and international trends in managing and implementing educational change.

The other area in which the Project had an involvement in whole school support was with the Breaking the Cycle (urban) schools. As already mentioned, a total of eleven

days was spent by the Project team in providing in-service support to the principals and teachers of these schools on a cluster basis. Even though the extent of support provided to any one school was relatively limited, there is some evidence that MI and TfU theories have impacted on the Whole School Development Plans of some of these schools.

While there is no empirical evidence from this Project that the achievement levels of pupils in areas such as literacy and numeracy improved, the perception of many teachers, especially those who were teaching so-called "weaker" students was that some improvement did occur. The teachers are strongly of the opinion that the Project resulted in improved motivation on the part of such pupils, especially pupils who previously showed a lack of interest in learning. This finding is in line with the findings of similar MI projects in other countries. At a time when it is generally recognised that motivation is an important key to learning, it is important that teachers take on board learning and assessment strategies which improve student motivation. This is particularly true in a situation where young people are being encouraged to become lifelong learners. The Project shows that MI and TfU approaches can provide opportunities for pupils to demonstrate what they **can do**, thereby experiencing success. A young person who associates schooling with negative experiences and with failure, is less likely to be a lifelong learner than someone who has had a positive experience of schooling. To quote a recent OECD report,

> Policies to increase equity and efficiency in education and training should consider carefully not only the incentives for pursuing further studies, but also the quality of and attitudes to learning in a lifelong perspective. They should aim to ensure that as many young adults as possible gain positive and constructive experiences of learning, on which they can continue to build throughout adulthood[45].

[45] OECD *Policy Analysis,* Paris: OECD, 1997.

APPENDIX

Indicative Examples of Lectures, Seminars and Workshops given outside University College Cork by members of the *Multiple Intelligences Curriculum and Assessment* Project Team (1996 to 2000)

1996:

10th February 1996: **Teaching and Active Learning: Multiple Perspectives;** two workshops, West Dublin Teacher's Centre. (Marian McCarthy)

11th February 1996: **An Introduction to Multiple Intelligences Theory and its Implications for Practice in Teaching Drama as a Subject and a Methodolog;** lecture and workshop, Speech and Drama Teachers Association of Ireland, Elai House, Dublin. (Marian McCarthy).

26th March 1996: **An Introduction to Multiple Intelligences: Theory and Practice;** Staff Development Day, Presentation Secondary School, Ballyphehane, Cork. (Áine Hyland and Marian McCarthy).

2nd July 1996: **Alternative Approaches in Theory and Practice to the Teaching of Drama and Poetry;** lecture and two workshops, In-service Programme for Primary Teachers, Newmarket, Co.Cork. (Marian McCarthy).

23/25th August 1996: **Women in Shakespeare: An Active Learning Approach;** four workshops on new approaches in theory and practice to the teaching of Shakespeare at second-level, Speech and Drama Teachers of Ireland, Summer School'96, The Samuel Beckett Theatre, Trinity College, Dublin. (Marian McCarthy).

4th November 1996: **Active Learning Approaches in the Classroom: Theory and Practice**; lecture and two workshops, Staff Development Day, Sacred Heart Secondary School, Tullamore, Co.Offaly. (Marian McCarthy).

9th November 1996: **Multiple Intelligences and Active Learning;** workshop for Youth Reach Programme, Cork, UCC. (Marian McCarthy).

22/24th November 1996: **Drama as a method in the English Classroom: The Multiplicity of Intelligences at play in Drama Methodology;** two workshops, National Association for Youth Drama, Annual Conference for Primary and Post-Primary Teachers, entitled *Into the Spotlight*, St. Patrick's College, Drumcondra, Dublin. (Marian McCarthy).

1997:

26th April 1997: **Teaching Plays and Poetry through Drama: Using a variety of Entry Points to Explore Texts;** two workshops, DramaLive, St. Patrick's College, Drumcondra, Dublin. (Marian McCarthy).

10th May 1997: **Drama-in -Education as an Active Learning Approach to the teaching of Civic, Social and Political Education;** two workshops for The Higher Diploma in Civic, Social and Political Education, National University of Ireland, Maynooth. (Marian McCarthy).

28th May 1997: **Multiple Intelligences in the Classroom: The Theory in Practice;** lecture and workshop, Psychological Services, Roinn an Oideachais, Co. Tipperary, (Marian McCarthy).

l1th June 1997: **Multiple Intelligences in the Classroom: The Theory in Practice;** three workshops, Psychological Services, Roinn an Oideachais, Co. Tipperary. (Marian McCarthy).

30th July 1997: **Learning; Multiple Perspectives;** Keynote Address to the International Conference of Secondary Catholic Teachers, Drumcondra, Dublin. (Áine Hyland).

12th September 1997: **Education Practice, Perspectives and Future Directions:** Address to Conference organised by IBEC (Irish Business and Employers' Confederation). (Áine Hyland).

26th September 1997: **Multiple Intelligences in the Classroom.** Keynote Address to the AGM of the Irish Learning Support Teachers' Association, Drumcondra, Dublin. (Áine Hyland).

30th September 1997: **The Concept of Multiple Intelligences.** Workshop for staff involved in the Higher Diploma in Marketing Practice Programme, Smurfit Business School, University College, Dublin. (Áine Hyland).

24th October 1997: **Education: Moving Beyond the Boundaries of Teaching;** Keynote Address to the Annual Conference of Nurse Teachers, Cork. (Áine Hyland).

1st November 1997: Training Weekend for Literacy Tutor Trainers, Athlone, (Marie Flynn).

1998:

26th January 1998 and 24th February 1998: **Active Learning in the Transition Year;**

Lecture and workshop, Transition Year Support Team: Methodology Course for Transition Year Teachers, Doughchloyne Inn, Cork. (Marian McCarthy).

19th January 1998: **Multiple Intelligences in the Classroom.** Workshop for staff of St. Brogan's College, Bandon, facilitated by Pat Naughton and Marie Flynn.

6th February 1998: **Multiple Intelligences and Gifted Children**. Talk and worshop to the Association for Gifted Children, Carmichael House, Dublin. (Marie Flynn).

5th March 1998: **Multiple Intelligences in the Classroom.** All day seminar and workshop for Principal Teachers of the schools in the Urban Breaking the Cycle initiative, Marlborough St., Dublin. (Áine Hyland, Pat Naughton and Marie Flynn).

6th March 1998: **Teaching for Understanding**. Keynote Address delivered to the Learning Support Teachers Association, Cork. (Áine Hyland).

16-17th March 1998: **The Implications of Multiple Intelligences Theory for Teaching, Learning and Assessment**. Lecture and Seminars for staff and students at Newman College, Birmingham. (Áine Hyland).

21st March 1998: **The Evolution of Second Level Education in the Next Ten Years**.

Workshop for Teachers and Members of Boards of Management of F.C.J. Schools, Portlaoise, Montague Hotel. (Áine Hyland).

24th March 1998: **Mainstreaming Disability in the Second Level Sector**.

Keynote Address to the AHEAD / TUI / ASTI Seminar on "Promoting Participation of Students with Disabilities" Dublin: Church of Ireland College. (Áine Hyland).

24th March 1998: **Multiple Intelligences Theory and its implications for Teaching and Learning;** lecture to Parents' Association and Staff, St. Joseph's Primary School, Mardyke, Cork. (Marian McCarthy).

26-28th March 1998: **The New Teacher of the New Century**. Paper delivered at an International Congress on "Education, Patrimony and Challenge of the Third Millennium". Guanajuato, Mexico. (Áine Hyland)

5th April 1998: **Active Learning: Implications for Curriculum and Assessment**. Paper delivered to the International Drama in Education Conference. University College Cork. (Áine Hyland).

5th April 1998: **Drama as a Tool for Learning at Third Level.** Lecture and workshop presented at the International Conference on Drama in Education entitled "*Texts and Transformations: Drama, Theatre and Active Learning",* UCC, Cork. (Marian McCarthy).

24th April 1998: **Assessment Issues for the 21st Century**. Paper presented to the Conference on Inequality in Education; The Role of Assessment and Certification. Dublin: Conference of Religious of Ireland. (Áine Hyland).

25th April 1998: **Drama and Active Learning in the CSPE Classroom;** workshop and lecture, Higher Diploma in Curriculum Studies, National University of Ireland, Maynooth. (Marian McCarthy).

25th June 1998: **Challenges and Opportunities in Higher Education**. Paper delivered to the Biennial Conference of the Confederation of Student Services in Ireland, NUI Galway. (Áine Hyland).

15th July 1998: **An Dramaíocht mar mhódh i múineadh na Gaeilge,** lecture and workshop, Teastas Teagasc na Gaeilge, Galway/Mayo Institute of Technology, Galway. (Marian McCarthy).

20th July 1998: **University Education in the 21st Century - a New Challenge?**

Keynote Address to the Eleventh International Conference on "The First Year Experience", Dublin: UCD. (Áine Hyland).

11th November 1998: **Multiple Intelligences theory and the Leaving Certificate Applied**. Address given at the launch of an evaluation report on Leaving Certificate Applied in Dublin Castle. (Áine Hyland).

12th November 1998: **Drámaíocht mar mhodh múinte do dhaltaí dara léibhéil;** lecture and workshop, Cumann na Múinteoirí Gaeilge, Corcaigh. (Marian McCarthy).

17th November 1998 : **Diversity and the College Curriculum**. Paper read at Conference on Equality in Higher Education organised by the Higher Education Equality Unit; University College, Cork. (Áine Hyland).

24th November 1998. **Learning into the 21st Century; Individuals, Education, Society**. Address delivered to the Governing Body of the Council for Educational Research and Innovation of the OECD, at its 30th anniversary meeting in Poitiers, France. (Áine Hyland).

27th November 1998: **Multiple Intelligences Theory and its Application in Classroom Practice;** lecture and workshop, Staff Development In-service, CBS, Nenagh, Co. Tipperary. (Marian McCarthy).

1st and 2nd December 1998: **Flexible Delivery and Learning.** Workshop at the National Colloquium on University Teaching and Learning: Policy and Practice, Royal Hospital Kilmainham. (MI and TFU were important theories in grounding and guiding thinking about teaching and learning at third level). (Marian McCarthy).

10th December 1998: **Integrating Multiple Intelligences Theory into the Secondary Curriculum from a Multi-Cultural Perspective.** Talk at the University of Ulster at Coleraine School Reform Collaborative, Derry. (Anne Rath).

September 1998 to February 1999: **Multiple Intelligences and Teaching for Understanding; Tools for Better Learning.** A series of eleven all-day workshops with teachers from Breaking the Cycle (urban) schools. (Áine Hyland, Pat Naughton and Marie Flynn).

1999:

18th January 1999: **Drámaíocht agus múineadh na Gaeilge;** lecture and workshop, Schull Community College, Co. Cork. (Marian McCarthy)

17-20th March 1999: **Learning Challenges for the 21st Century**. Paper delivered at the second International Congress on Education in Guanajuato, Mexico. (Áine Hyland).

27th May 1999: **Multiple Intelligences Approaches to Teaching at Third Level,** seminar/workshop, Teaching Support Group, UCC, Cork. Marian McCarthy)

3rd June 1999: **A Constructivist Approach to Teaching at Third-Level;** seminar/workshop, Teaching Support Group, UCC, Cork. (Marian McCarthy)

10th June 1999: **Teaching for Understanding at Third Level;** seminar/workshop, Teaching Support Group, UCC, Cork. (Marian McCarthy)

30th June 1999: **Values and Education**. University Sermon delivered in St. Fin Barre's Cathedral, Cork. (Áine Hyland).

4th June 1999: **Assessment and the Learning Process**. Workshop for the Education Officers of the National Council for Curriculum and Assessment, Athlone. (Áine Hyland).

5th July 1999: **Drámaíocht san Oideachais i múineadh na Gaeilge;** Teastas Teagasc na Gaeilge, Galway/Mayo Institute of Technology, Galway. Marian McCarthy)

17th July 1999: **Multiple Intelligences and Home Education.** Home Education Network Conference, Newtown School Waterford (Pat Naughton)

22nd July 1999: **The Theory of Multiple Intelligences.** Workshop at the Mercy Education Conference, University of Limerick (Pat Naughton)

30th September 1999: **Flexible Teaching and Learning;** presentation and workshop for Staff Orientation for New Lecturers, UCC, Cork. (Marian McCarthy)

30th September 1999: **Teaching for Understanding: Planning and Delivering a Third Level Course**. Orientation for New Lecturers, University College Cork. (Áine Hyland).

7th October 1999: **Multiple Intelligences Theory and Practice;** lecture and workshop for visiting German teachers, North Monastery Language Centre, Cork. (Marian McCarthy)

21st October 1999: **Learning through Multiple Intelligences;** Early School Leavers Initiative, Dunmanway, Co Cork (Pat Naughton)

28th October 1999: **Helping Students to Access Learning**, lecture and two workshops, Session One of an Action Research Project with Mol an Óige, Thurles, Co. Tipperary. (Marian McCarthy)

1st November 1999: **Multiple Intelligences in the Classroom.** School Development Planning Day, Ashton School (Pat Naughton)

5th November 1999: **Active Learning and the Transition Year: How Constructivist is the Transition Year Curriculum?;** lecture and workshop for the Transition Year Support Team, Blarney Park Hotel, Blarney, Co. Cork. (Marian McCarthy)

8th November 1999: **Learning through Multiple Intelligences;** Early School Leavers Initiative, Ballynanty, Limerick (Pat Naughton).

13th November 1999: **Drama in the teaching of Civic, Social and Political Education: its Relevance to Multiple Intelligences and Teaching for Understanding;** workshop, Association of CSPE Teachers (ACT), Church of Ireland, Rathmines, Dublin. (Marian McCarthy)

9th December 1999: **Drama in Education in the Language Classroom : Multiple Intelligences and Active Learning Perspectives;** lecture and workshop, German Teachers' Association, UCC, Cork (Marian McCarthy)

10th December 1999: **Multiple Intelligences Perspectives and Teaching for Understanding Approaches in Youth Reach Programmes;** seminar and two workshops, Session Two of Action Research Project with Mol an Óige, Thurles, Co. Tipperary. (Marian McCarthy)

10/11th December 1999: **Multiple Intelligences in the Classroom.** Conference of Principals and Deputy Principals of Christian Brothers; Schools, Dundrum, Co. Tipperary. (Pat Naughton),.

2000:

22nd January 2000: **Drama and Active Learning in the Teaching of Civic, Social and Political Education;** lecture and workshop, Higher Diploma in Civic, Social and Political Education, National University of Ireland, Maynooth (Marian McCarthy).

15th February 2000: **Active Learning Approaches: helping Students to Access Learning through Multiple Intelligences and Drama in Education Approaches**; lecture and two workshops, Inservice Day, St. Anne's School, Tipperary town, Aherlow House Hotel, Co. Tipperary. (Marian McCarthy).

25th February 2000: **Multiple Intelligences, Teaching for Understanding and Constructivist Approaches in Youth Reach Programmes: What Teachers have Experienced and Learned in this Action Research Project;** seminar and two workshops, Session Three, Action Research Project, Mol an Óige, Thurles, Co. Tipperary. (Marian McCarthy).

30th March 2000: **An Introduction to Multiple Intelligences and How it Works in the Classroom;** presentation and two workshops, Institute of Guidance Counsellors, National Conference entitled *Guidance and Counselling: Personal Empowerment in the New Millennium*, Dundalk, Co. Louth. (Marian McCarthy).

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