TEACHING AND LEARNING INTERNATIONAL SURVEY (2008) NATIONAL REPORT FOR IRELAND

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with Maeve Proctor

Educational Research Centre

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http://www.erc.ie

Cataloguing-in-Publication Data

Gilleece, Lorraine
Teaching and Learning International Survey (2008). National report for Ireland/
Lorraine Gilleece, Gerry Shiel, Rachel Perkins, with Maeve Proctor.
Dublin: Educational Research Centre.
xxviii, 202p.; 30 cm.
Includes bibliographical references.
ISBN: 978 0 900440 26 7
1. Teaching and Learning International Survey
2. High school teaching – Ireland
3. High school teachers – Ireland
4. Junior high schools – Administration – Ireland
5. Education, Secondary – Ireland

2009 I Title. II Shiel, Gerry III Perkins, Rachel
373.1102 / 09415 – dc22

Cover Design by eprint Limited, Dublin

Printed in the Republic of Ireland by eprint Limited, Dublin

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Preface

TALIS, the Teaching and Learning International Survey, is a project of the Organisation for Economic Cooperation and Development (OECD). It focuses on the learning environments and teaching conditions in post-primary schools catering for students at Junior Cycle level. Like other OECD studies such as the Programme for International Student Assessment (PISA), it is policy-focused. Its primary purpose is to assist countries in reviewing and developing policies that strengthen the teaching profession. It follows an earlier OECD study, *Teaching Matters: Attracting, Developing and Retaining Effective Teachers* (OECD, 2005), in which significant data gaps relating to teachers and their work were identified. The main focus of TALIS is on teacher attitudes, beliefs and practices, teacher appraisal[1] and feedback, and the participation of teachers in professional development. Another key area relates to the leadership styles of school principals.

An initial international report on TALIS, *Creating Effective Teaching and Learning Environments: First Results from TALIS* (OECD, 2009a) was published earlier this year. The purpose of the current report is to describe, in greater detail, the outcomes for Ireland, and to consider implications for teacher support and development.

TALIS involved 24 countries, of which 17 (including Ireland) are members of the OECD, and 17 are EU applicant or member states. The participating countries were: Australia, Austria, Belgium (Fl.), Brazil, Bulgaria, Denmark, Estonia, Hungary, Iceland, Ireland, Italy, South Korea, Lithuania, Malaysia, Malta, Mexico, the Netherlands, Norway, Poland, Portugal, the Slovak Republic, Slovenia, Spain and Turkey. A feature of TALIS was the non-participation of some larger European countries such as the UK, France and Germany, and the inclusion of a significant number of smaller countries. In the present report, the responses of principals and teachers in Ireland are compared in detail to those of their colleagues in 5 'comparison' countries – Austria, Belgium (Fl.), Denmark, Norway and Poland. It was felt that, among participating TALIS countries, these would provide the most interesting and relevant points of comparison. While the first four are Western European countries with long-established educational systems that are broadly similar in size to Ireland's, Poland is an emerging country that has significant links with Ireland and has undergone substantive educational change in the past decade. Unfortunately, it was not possible to draw comparisons with the Netherlands, as it did not achieve the required TALIS sampling standards, and therefore sampling weights were not generated by the OECD.

In Ireland, TALIS was implemented by the Educational Research Centre (ERC) on behalf of the Department of Education and Science. A pilot study involving 16 schools and 220 teachers was implemented in Spring 2007, while the main study, in which 142 schools and 2227 teachers took part, was implemented in Spring 2008. The ERC is most grateful to

[1] Although the term 'appraisal' is not typically used in Ireland in relation to the ongoing monitoring of teachers' professional practices, the term is used in the current report for purposes of comparison with other TALIS countries.

the principal teachers and subject teachers who completed the questionnaires, and to the school co-ordinating teachers who oversaw the administration of TALIS at school level. The ERC also acknowledges the considerable help of members of the TALIS National Advisory Committee (listed on page xv) in disseminating information about TALIS, and encouraging principals and teachers to participate.

The Advisory Group, which was appointed by the Minister for Education and Science, also advised the ERC on the implementation of the TALIS study and on the interpretation of outcomes. Again, the Centre is grateful to members of the group for their help with these important aspects of the study.

We also wish to acknowledge the assistance of current and former colleagues at the ERC in implementing TALIS. Particular thanks are due to Thomas Kellaghan, former director of the Centre, and to Peter Archer, current director, for their ongoing support and review of key documents. Thanks are due to Laura McAvinue, a former national project manager on the study, who prepared survey materials and worked with schools during the pilot study. Thanks are also due to John Coyle for his work on data management, to Jude Cosgrove for her advice on technical aspects of the analyses, and to Mary Rohan and Hilary Walshe for their administrative support. Finally, we wish to thank Michael Davidson and Ben Jensen at the OECD, Ralph Carstens at the IEA Data Processing Centre and Sylvie LaRoche at Statistics Canada for their help, particularly during the analysis phase of our work.

Before considering the results of TALIS, some caveats are put forward. TALIS is based on the self-reports of principal teachers and subject teachers in response to questionnaire items. Hence, their responses may not be as objective as other measures, such as in-depth interviews or direct observation. Related to this, and arising from cultural differences, a number of the scales presented in this report are not comparable across countries. Instead, where relevant, the reader is advised to draw within-country comparisons as well as comparisons with the corresponding TALIS country average percentages or scores. It should also be noted that TALIS is a cross-sectional study, with data collection occurring at one point in time. Hence, observed relationships between variables should be regarded as indicative rather than causal.

The current report is divided into 8 chapters. Chapter 1 provides a broad introduction to TALIS, covering the purpose of the study and situating it in the context of other work on teacher development, in Ireland and internationally. Questionnaire content and survey implementation are also addressed. Chapter 2 provides extensive background on the teachers who participated in TALIS and on characteristics of their schools. Chapter 3 looks at teacher professional development, the types of activities undertaken and the impact of, and barriers to, participation in professional development. Chapter 4 examines teachers' beliefs about instruction, the teaching practices they use, their levels of self-efficacy and job satisfaction, and the climate in their schools and classrooms. Chapter 5 addresses the issue of school evaluation and teacher appraisal. Next, in Chapter 6, some background information is provided on the principals of schools participating in TALIS, along with a description of their management styles. Chapter 7 focuses on the key outcome variables, classroom disciplinary climate and teacher self-efficacy, and looks at factors associated

with each of these. Finally, Chapter 8 summarises the main findings and provides a number of recommendations. For most chapters, an accompanying appendix provides supplementary information such as tests of statistical significance or technical details of analyses. Unless otherwise stated, the TALIS database is the source of data in tables and figures. Abbreviations and acronyms are listed on page xvii.

Members of the TALIS National Advisory Group

Eamonn Murtagh (Chair), Inspectorate, Department of Education and Science
Clive Byrne, National Association of Principals and Deputy Principals
Sr. Marie Clegg, Association of Community and Comprehensive Schools (to March 2009)
Ann Dinan, Joint Managerial Board for Secondary Schools (to August 2009)
Ciarán Flynn, Association of Community and Comprehensive Schools (from April 2009)
Bernie Judge, Teachers' Union of Ireland
Paddy Lavelle, Irish Vocational Educational Association
Moria Leydon, Association of Secondary Teachers of Ireland
Michael Redmond, Joint Managerial Board for Secondary Schools (from September 2009)
Angela Rickard, National University of Ireland, Maynooth
Alan Wall, Teacher Education Section, Department of Education and Science
Lorraine Gilleece, ERC (from January 2009)
Laura McAvinue, ERC (National Project Manager, to September 2007)
Rachel Perkins, ERC (National Project Manager, from October 2007)
Maeve Proctor, ERC (Research Assistant, from October 2007 to September 2008)
Gerry Shiel, ERC (Representative for Ireland, TALIS Board of Participating Countries)

List of Abbreviations and Acronyms

AUT	Austria
BFL	Belgium (Flemish)
BRR	Balanced repeated replication (design)
CI95L	Lower limit of 95% confidence interval
CI95U	Upper limit of 95% confidence interval
CSPE	Civic, Social and Political Education
DEIS	Delivering Equality of Opportunity in Schools
DEN	Denmark
df	Degrees of freedom
IRL	Ireland
ISCED	International Standard Classification of Education
NOR	Norway
OECD	Organisation for Economic Co-operation and Development
PISA	Programme for International Student Assessment
POL	Poland
SE	Standard error
SED	Standard error of the difference
SPHE	Social, Personal and Health Education
TALIS	Teaching and Learning International Survey

Executive Summary

TALIS, the Teaching and Learning International Survey, is a project of the Organisation for Economic Co-operation and Development (OECD). TALIS looks at aspects of teacher professional development, teachers' beliefs, attitudes and practices, teacher appraisal[1] and feedback, school evaluation, and school leadership styles in schools catering for students in Grades 7-9 ('lower-secondary level') across 24 participating countries. Its purpose is to 'assist countries to review and develop policies to make the teaching profession more attractive and more effective' (OECD, 2009a, p.3). In Ireland, 142 schools and 2227 teachers took part in the survey in Spring 2008.

This report focuses on the outcomes for Ireland and for 5 'comparison' countries – Austria, Belgium (Fl.), Denmark, Norway and Poland. These countries are selected because, like Ireland, they are members of the European Union. The first four are countries which are broadly similar in population size to Ireland and with well established education systems. Poland is selected because its education system at lower-secondary level has recently undergone considerable change, and it is representative of the new EU member states.

The data in this report are estimates, based on responses of samples of principal teachers and subject teachers to questionnaire items, and measurement error is associated with their responses. Some indices in this report have been identified as not being fully comparable across countries (OECD, 2009a). Where this is the case, the OECD protocol of making comparisons within countries, and with the TALIS country average, but not between individual countries, is followed.

TALIS: Key Findings for Ireland

Background Data on Teachers

In Ireland, 69% of teachers of lower-secondary students are female. This is similar to the TALIS country average (69%), more than in Norway (60%) and Denmark (58%), and fewer than in Poland (76%). Thirty-five percent of principal teachers in Ireland are female, compared to 41% in Norway, 45% on average across TALIS countries, and 69% in Poland.

Teachers in Ireland tend to be younger, on average, than their counterparts in other comparison countries, with 22% under 30 years of age, compared with 7% in Austria, 8% in Denmark and 15% on average across TALIS countries. In contrast, 27% of teachers in Ireland and on average across TALIS countries are 50 years of age or older, compared with 39% in Denmark and 41% in Austria. Thirty-five percent of teachers in Ireland have 20 or

[1] Although the term 'appraisal' is not typically used in Ireland in relation to the ongoing monitoring of teachers' professional practices, the term is used throughout the current report for purposes of comparison with other TALIS countries.

more years teaching experience, again close to the TALIS country average (36%), Denmark (39%) and Norway (39%), but lower than Austria (57%).

In Ireland, 16% of teachers have a Masters degree, more than in Belgium (Fl.) or Denmark (both 8%), but fewer than in Austria (34%) or Poland (94%). On average across OECD countries, 31% of teachers have a Masters degree. Less than 1% of teachers in Ireland have a Doctoral degree – the same as the TALIS country average.

Fewer teachers in Ireland (73%) are permanently employed than on average across TALIS countries (85%), or in Norway (90%) or Denmark (97%). Whereas almost 90% of teachers aged 40 years or more are in permanent employment in Ireland, just 27% of those under 30 enjoy permanent status. Related to this, 53% of teachers under 30 are on fixed-term contracts of one year or less.

Professional Development

Almost 90% of teachers in Ireland report that they had participated in formal professional development activities (courses and workshops, education conferences and seminars, qualification programmes, observation visits to schools, networks of teachers, individual or collaborative research, mentoring and/or peer observation, or coaching) in the 18 months prior to TALIS. Although this is similar to the TALIS country average (89%), teachers in Ireland attend relatively fewer days of professional development (6 days on average) than their counterparts in other countries (TALIS average: 15 days). The most commonly reported activities in Ireland are: attendance at courses and workshops (86% of all teachers had attended a course or workshop in the specified time period) and participation in professional development networks (51%). Relative to the corresponding TALIS country averages, proportionately fewer teachers in Ireland participate in mentoring and peer observation (18% vs. 35%), qualification programmes (11% vs. 25%), or observation visits to other schools (8% vs. 28%).

Four areas emerge in which teachers in Ireland report comparatively higher levels of development need than their counterparts in other TALIS countries – ICT teaching skills (34% in Ireland vs. 25% on average across TALIS countries), teaching special learning needs students (38% vs. 31%), teaching in a multi-cultural setting (24% vs. 14%), and student counselling (25% vs.17%). Teaching students with special learning needs is also the area in which the greatest proportion of teachers across TALIS countries identified a need.

Seventy-nine percent of teachers in Ireland who participated in professional development report that they paid no costs. This is higher than the TALIS country average (65%). Ninety-five percent of teachers in Ireland report that they received scheduled time in which to participate in professional development. This is well above the TALIS country average (63%). Just 6% of teachers in Ireland who had undertaken professional development report that they received a salary supplement. The corresponding TALIS country average is 11%.

In Ireland, 54% of teachers indicate that they had wanted to participate in more professional development than was possible in the 18 months prior to TALIS – about the

same as the corresponding TALIS country average (55%). Reasons for non-participation among teachers in Ireland who wished to do so include a lack of suitable professional development activities (45%), conflict with work schedule (43%), and family responsibilities (29%). The percentages are similar to the corresponding TALIS country average percentages.

When asked about the impact of various types of professional development on their development as teachers, activities undertaken by smaller proportions of teachers are reported to have the greatest impact, including qualification programmes (93% of teachers in Ireland who participated in these report a high or moderate impact), individual and collaborative research (87%), courses and workshops (82%) and professional development networks (79%). Areas where the impact is perceived to be lower, although still perceived as positive, include educational conferences and seminars (75%), mentoring and observation (71%), and reading professional literature (71%).

Eighty-four percent of teachers in Ireland teach in schools whose principal teachers report that a formal induction programme is in place for all new teachers to the school. The corresponding TALIS country average is 45%. In Ireland, principals indicate that 64% of teachers are in schools with mentoring programmes for all new teachers to the school. This exceeds the TALIS country average of 37%. No information was requested in TALIS on the content, duration, or quality of induction or mentoring programmes.

Teachers' Practices, Beliefs and Attitudes

In Ireland, and in all 5 comparison countries, teachers indicate stronger endorsement for constructivist beliefs about teaching (facilitating students to develop solutions for themselves) than direct transmission beliefs (transmitting knowledge and providing solutions). However, teachers in Ireland are somewhat less supportive of constructivist beliefs, and somewhat more supportive of direct transmission beliefs than their counterparts in the five comparison countries. Female teachers are less likely than males to hold direct transmission beliefs about teaching in Ireland and in more than half of TALIS countries.

Teachers in Ireland indicate a stronger relative preference for structuring practices (practices that aim to ensure that learning is well structured) than teachers in any other TALIS country, while teachers in Norway and Denmark express the weakest preference. In all comparison countries, the use of student-oriented practices (i.e., teaching which is adapted to individual student needs) is more prevalent than the use of enhanced activities (i.e., opportunities for students to explain their thinking or reasoning in detail through debates or extended essays). In Ireland and in more than half of TALIS countries, female teachers use both structuring practices and student-oriented teaching practices significantly more frequently than male teachers. Again, in Ireland and in more than half of TALIS countries, teachers of mathematics or science report more frequent use of structuring teaching practices than teachers of practical or vocational subjects. Teachers of humanities subjects also report more frequent use of structuring practices than teachers of practical or vocational subjects. Maths or science teachers and humanities teachers report significantly

less frequent use of student-oriented practices and enhanced activities than teachers of vocational or practical subjects.

Basic co-operative activities, such as exchanging teaching materials, are engaged in relatively more often by teachers in Ireland and across all comparison countries than activities deemed to represent more complex professional collaboration such as team teaching or observation of other teachers' classes. Larger gaps are found between the two types of co-operation in Belgium (Fl.), Austria and Ireland, indicating a relatively stronger emphasis on exchange and co-ordination for teaching compared with professional collaboration in these countries. Participation in certain types of professional development, i.e., attendance at workshops, participation in networks of teachers, or involvement in mentoring, are associated with both types of co-operative activity (exchange and co-ordination for teaching and professional collaboration). Female teachers report significantly higher levels of both types of co-operation than male teachers in Ireland and in more than half of TALIS countries. In Ireland, and in most TALIS countries, the more frequently teachers use exchange and co-ordination for teaching, the better they report teacher-student relations to be.

On average across TALIS countries, teachers report that 79% of class time is spent on teaching and learning. The average for teachers in Ireland (81%) is marginally above this, and about the same as in the other comparison countries. The percentages of time spent by teachers in Irish classrooms on administrative tasks (7%) and keeping order (11%) are about the same as the corresponding TALIS country averages (8% and 13% respectively). When asked to consider the classroom disciplinary climate in a specific class, teachers in Austria, Ireland and Poland report positive climates relative to the TALIS country average, while the climate in Denmark and Norway is found to be weak. Looking at the climate in the school more generally, teacher-student relations are stronger in Ireland than on average across TALIS countries, and, among comparison countries, teachers in Norway report the strongest relations.

Teachers in Norway, Ireland, Denmark and Austria have mean self-efficacy scores that are well above the TALIS average, while the self-efficacy of teachers in Poland is below it. The job satisfaction of teachers in Ireland is high, with almost 90% of teachers strongly agreeing that, all in all, they are satisfied with their jobs. High levels of jobs satisfaction are also found in the comparison countries. Across all TALIS countries, teachers' job satisfaction is positively related to classroom disciplinary climate, teacher-student relations and self-efficacy.

School Evaluation and Teacher Appraisal and Feedback

Just 44% of teachers in Ireland teach in schools in which the principal teacher reports that a school self-evaluation, for which a document or report was produced, took place in the 5 years prior to the TALIS survey. This compares with 75% in Norway, 78% in Belgium (Fl.), 80% on average across TALIS countries, and 90% in Poland. Forty-three percent of teachers in Ireland teach in schools in which an external school evaluation had taken place in the previous 5 years. This is also below the TALIS country average of 70% and also below the estimates for Belgium (Fl.) (90%), Norway (64%), and Poland (86%), but

similar to Austria (42%) and Denmark (47%). More teachers in Ireland (39%) than in any other TALIS country teach in schools in which no school evaluation of any kind had taken place, although the estimates for Austria (35%) and Portugal (33%) are not statistically different from Ireland. In Ireland, 65% of teachers work in schools in which the results of whole-school evaluations are published – an estimate that is higher than the TALIS country average (55%), and one that may well increase since the publication of reports of whole-school inspections on the DES website began in 2006 (midway through the five year period preceding TALIS).

Fifty-seven percent of teachers in Ireland report that they had received an appraisal of their teaching from the school principal. This is below the TALIS country average of 78%, and the estimates for all five comparison countries. Appraisal by other teachers or by members of the school management team is also infrequent in Irish schools, with under one half of teachers (48%) reporting that such an appraisal had taken place. The corresponding TALIS country average is 71%. Forty-seven percent of teachers in Ireland report that they received an appraisal from an external source. This is about the same as the TALIS country average (49%) and more than in Norway (22%) and Denmark (30%). Seventy-four percent of teachers in Ireland report that they received at least one of these types of appraisal in their current school. Again, this is lower than the TALIS country average (87%) and the estimates for each of the comparison countries. In general, teachers in Ireland (88%) agree that the appraisal and/or feedback they received on their teaching was fair, and that it impacted positively on their teaching (79%). Just 40% of teachers in Ireland report that they received specific suggestions for improving their work following an appraisal, about the same as in Austria (41%), but below the OECD country average (58%). In Ireland, and on average across TALIS countries, one-half of teachers report that the appraisal and/or feedback has led to an increase in job satisfaction, while just 16% in Ireland, and 34% across TALIS countries report that it has led to an increase in job security. In general across TALIS countries, appraisal and/or feedback is not perceived by teachers to lead to strong changes in key elements of teaching such as classroom management practices, teaching students with special education needs, or teaching students in a multi-cultural setting, and fewer teachers in Ireland report such changes, compared with teachers on average across TALIS countries. This finding may reflect variation in the purposes and outcomes of appraisal and/or feedback, as well as differences in the composition of teachers' classes.

In Ireland, many of the same evaluation criteria are employed in school and teacher evaluations, though to a somewhat lesser degree in the latter compared with the former. For example, while 93% of school principals report that the professional development undertaken by teachers was a criterion in school evaluations, just 58% of teachers report that this was a criterion in teacher appraisal. In their initial international report on TALIS, the OECD provides some evidence of associations between school evaluations, teacher appraisal and feedback, the extent of change in teaching, and teachers' professional development needs for each of six aspects of teaching, including classroom management, teaching in a multicultural setting, and handling of student discipline and behaviour problems. While relationships between the importance attributed to various criteria in school evaluations and teacher appraisals are weak, links between the importance attached

to criteria in teacher appraisal and corresponding changes in teacher practices are stronger, as are links between changes in teacher practices and teachers' professional development needs. This can be interpreted as a positive impact of teacher appraisal and feedback, though in several countries, including Ireland, links between evaluation and professional development could be strengthened further.

School Leadership and Management Styles

Principal teachers in Ireland report stronger use of an administrative leadership style compared with an instructional leadership style. Principals in four of the five comparison countries (Austria, Belgium (Fl.), Denmark and Norway) also report relatively low usage of an instructional leadership style, while principals in Denmark and to a lesser extent Belgium report relatively low usage of an administrative style as well. Only in Poland do principal teachers report using a strong instructional leadership style. Given that research conducted by the OECD and others consistently supports the use of a strong instructional leadership style among principal teachers, these findings are of concern.

The elements of instructional leadership in which principal teachers in Ireland report particularly low levels of engagement are observing instruction in classrooms, giving teachers suggestions on how they can improve their teaching, checking to see if classroom activities are in keeping with instructional goals, and monitoring students' work. Although 95% of principal teachers in Ireland report that they inform teachers of possibilities for updating their knowledge and skills on a frequent basis, and 95% make sure that professional development activities are in accordance with the activities of the school, it is unclear in what contexts these activities are carried out, given the low levels of engagement in professional development by teachers in Ireland.

On items contributing to the administrative leadership index, principal teachers in Ireland report higher levels of involvement in resolving timetabling and planning issues (97%) than their counterparts in Austria (65%), Belgium (50%), Denmark (59%) and Norway (76%). Similarly, principals in Ireland were more involved in 'checking for mistakes and errors in administrative procedures' (89%) than principals in Austria (74%), Denmark (65%) or Poland (78%). Surprisingly, just 75% of principals in Ireland report that they are often involved in 'stimulating a task orientated environment' in their school, compared with 90% or more in each comparison country.

Associations between principal teachers' instructional leadership style and other teacher indices in TALIS are generally weak. In Ireland, teachers working in schools in which the principal has a stronger instructional leadership style are more likely to report that they engage their students in enhanced learning activities, that retention and pass rates are included as a criterion in teacher appraisal, and that the professional development undertaken by teachers is included as a criterion in teacher appraisal. When data are pooled across TALIS countries, associations are found between a principal's instructional leadership style and implementation of innovative teaching practices as a criterion in teacher appraisal. Similarly, principal teachers with a stronger instructional leadership style are more likely to work with teachers who report that a development or training plan for teachers to address weaknesses observed during an appraisal was prepared. Few aspects of

teaching and learning measured in TALIS are found to be significantly associated with an administrative leadership style.

Teacher Self-Efficacy

Teachers in public[2] (community, comprehensive or vocational) schools in Ireland are found to have lower levels of self-efficacy than teachers in private (secondary) schools. Teachers in Ireland and the five comparison countries who hold stronger beliefs about instruction, whether direct transmission or constructivist, are found to have higher levels of self-efficacy. In Ireland, Austria, Belgium (Fl.) and Norway, higher teacher self-efficacy is associated with more frequent use of structuring practices. In Ireland and Poland, higher self-efficacy is also associated with the use of enhanced activities. In Ireland and in three of the comparison countries, teachers who report that their appraisal led to greater recognition from the principal and/or their teaching colleagues have higher levels of self-efficacy than those who did not report that their appraisal had such an outcome. Positive teacher student-relations in the school are associated with higher levels of teacher self-efficacy in Ireland and in the five comparison countries. Finally in Ireland, teachers have higher self-efficacy in schools where the principal has a high score on the accountability management index, although given high rates of missing data on the accountability variable, this finding should be treated with caution.

Classroom Climate

In Ireland and in most or all of the comparison countries, positive teacher-student relations, high average student ability, and high levels of education among students' parents, are associated with positive classroom disciplinary climate. Conversely, low student achievement is associated with poor classroom disciplinary climate in Ireland and in all countries compared. In Ireland, and in some of the comparison countries, teachers with permanent contracts, and teachers who more frequently use structuring practices, report better classroom disciplinary climates, while school average class size is negatively associated with classroom climate. In the five comparison countries (but not in Ireland), greater teaching experience is positively associated with classroom climate.

Further examination of classroom climate, looking specifically at the data for Ireland and adding a number of additional national variables, reveals negative associations with larger average class sizes within a school, a higher proportion of students of below average ability in the school and the school being part of the School Support Programme (SSP) under DEIS (Delivering Equality Of Opportunity In Schools). In addition to these school level factors, it is found that classroom climate is poorer in a class when the teacher rates the ability of the students as below average. Stronger classroom climate is associated with teachers working full-time and in permanent employment, and teachers rating the ability of the students more positively. Classroom climate is also more positive when the teacher

[2] The OECD considers a school to be public if it is managed directly or indirectly by a public education authority, government agency, or governing board appointed by the government or elected by public franchise. In Ireland, community, comprehensive and vocational schools constitute public schools. The OECD identifies private schools as those which are managed directly or indirectly by a non-governmental organisation; e.g. a church, trade union, business or other private institution. In Ireland, voluntary secondary schools are considered to be private.

rates teacher-student relations in the school more positively and when the teacher makes greater use of structuring practices.

Recommendations

Recommendation (R1): The Department of Education and Science (DES), other educational partners and stakeholders, schools and teachers should collaborate to identify ways in which professional development can be facilitated, on a more frequent basis, both within and outside of school time. In doing so, attention will need to be given to issues such as (i) access; (ii) incentives; and (iii) scheduling, as well as any future requirements for maintaining or reinstating Teaching Council registration.

Recommendation (R2): Each school should prepare a professional development plan covering a three to five year period, taking into account the needs of the system and the school as well as teachers' individual needs. This will enable professional development to become part of the culture of the school. As this culture and the national context evolve, it would be expected that all teachers will prepare individual professional development plans.

Recommendation (R3): The Teaching Council should identify ways in which teacher professional development, including induction, can be incorporated into the career structures of teachers. Reference should be made to the National Framework for Qualifications in recognising the role of additional qualifications in teachers' career structures.

Recommendation (R4): In supporting teachers to access professional development, the DES, the support services and schools should take into account not only more general needs in the areas of teaching and learning, but also the TALIS finding that teachers in Ireland report their areas of greatest need as teaching special learning needs students, ICT teaching skills, student counselling and teaching in a multi-cultural setting.

Recommendation (R5): Schools should be assisted by the DES and support services in enabling teachers to engage in a broader range of professional development activities, including observation visits to other schools, mentoring and peer observation, and individual and collaborative research.

Recommendation (R6): Schools should be supported by the Teaching Council and other relevant bodies in providing high quality induction to all newly qualified teachers, drawing on a model such as the National Pilot Project on Teacher Induction. Schools should provide appropriate induction to teachers who have transferred from another school.

Recommendation (R7): Given the influence of teacher beliefs on teaching and learning, schools and providers of professional development should look at ways to raise teachers' awareness of the value of constructivist approaches to teaching (i.e. those based on inquiry/problem-solving/active learning).

Recommendation (R8): Schools and providers of professional development should support teachers in using a broader range of teaching practices, including involving students in: planning learning activities; jointly solving problems in small groups; completing extended

projects; and explaining their reasoning. The potential contribution of mentoring in this work should be noted.

Recommendation (R9): Schools should encourage greater co-operation between teachers, engaging them over time in activities such as team teaching and observing other teachers' classes.

Recommendation (R10): Schools should engage in an on-going process of self-evaluation relating to teaching and learning, which results in action plans for further development in key areas. This work should be acknowledged in external school evaluations.

Recommendation (R11): The Department of Education and Science should work towards implementing an external evaluation in each post-primary school every five years.

Recommendation (R12): School principals should be supported by the DES and others to create environments which prioritise student learning and teacher professional development. Such support might focus on establishing improved systems to assess the quality and effectiveness of teaching and learning and convey relevant feedback to teachers.

Recommendation (R13): The DES should identify strategies designed to reduce the engagement of principal teachers in administrative tasks and appropriate in-career development should be provided to principals in this regard.

Recommendation (R14): School principals should strive to achieve a better balance between, on the one hand, administrative duties, and, on the other, activities consistent with more effective supervision of standards in teaching and learning, including those relating to teachers' professional practices.

Recommendation (R15): Findings in Ireland of strong levels of teacher self-efficacy and classroom disciplinary climate, as well as positive teacher-student relations and high job satisfaction, should be acknowledged and secured as new initiatives designed to improve the education system are put in place.

Recommendation (R16): The DES should note the relationships found in TALIS between permanent employment, full-time work and classroom disciplinary climate and take these into account in developing policies relating to the status of teaching positions.

1. Introduction

TALIS, the Teaching and Learning International Survey, is a project of the Organisation for Economic Cooperation and Development (OECD). TALIS focuses on the learning environments and teaching conditions in post-primary schools catering for students in Grades 7-9 (ISCED Level 2)[1]. Its purpose is to 'assist countries to review and develop policies to make the teaching profession more attractive and more effective' (OECD, 2009a, p.3). TALIS looks at aspects of teacher professional development, teachers' beliefs, attitudes and practices, teacher appraisal and feedback, school evaluation, and school leadership styles.

TALIS emerged from ongoing work conducted by the OECD to develop Indicators of Education Systems (INES). Significant gaps in the knowledge base in relation to teachers and teaching were noted by the INES General Assembly in 2000. The OECD report *Teachers Matter: Attracting, Developing and Retaining Effective Teachers* (OECD, 2005) also identified key data gaps that needed to be filled. A taskforce of national experts from the OECD INES Networks A (learning outcomes) and C (learning environments and school organisation) was formed to propose a strategy that would take steps towards improving the indicators on teachers, teaching and learning. TALIS has been developed to help address identified data gaps and to support policy developments. The potential for the international benchmarking of teacher characteristics is key to the development of TALIS.

TALIS was implemented at international level by the International Association for the Evaluation of Educational Achievement (IEA), on behalf of the OECD. In 2007 (Southern Hemisphere countries) and 2008 (Northern Hemisphere countries), questionnaires were administered to representative samples of class (subject) teachers and principals in schools teaching ISCED Level 2 students in 24 countries (17 OECD countries and 7 'partner' countries) (Table 1.1).

Table 1.1: Countries Participating in TALIS (2007-08)

OECD Countries			Partner Countries
Australia	Ireland	Poland	Brazil
Austria	Italy	Portugal	Bulgaria
Belgium (FL)	Korea (South)	Slovak Republic	Estonia
Denmark	Mexico	Spain	Lithuania
Hungary	Netherlands*	Turkey	Malaysia
Iceland	Norway		Malta
			Slovenia

*Not included in data tables, as TALIS sampling standards were not achieved.

[1]ISECD is the International Standard Classification of Education, last revised in 1997. In Ireland, ISCED 2 corresponds with Junior Cycle (First to Third years, post-primary).

In Ireland, the survey was administered by the Educational Research Centre. Data were collected in February-May 2008. The achieved sample was 2227 teachers in 142 schools. TALIS was administered in two formats: print and electronic. In Ireland, the vast majority of responding teachers and principals chose the print versions of the questionnaires.

The remainder of this chapter consists of four sections. First, the framework for the TALIS survey is reviewed. Second, the content of the survey questionnaires is outlined. Third, implementation of TALIS in Ireland and in participating countries is discussed. Fourth, the national context in which TALIS was conducted is outlined.

The TALIS Framework

TALIS was designed to provide information to help countries to develop policies on teachers, teaching and learning. Specifically, it focused on providing indicators to support policy makers in:

- Recognising, rewarding and appraising teachers and supporting their professional development so that schools can successfully retain and develop effective teachers
- Developing school leadership models that help create effective schools and the teaching staff within them, and identifying influences of leadership styles on teacher recognition, reward and appraisal, teacher attitudes and beliefs, professional development, and the climate of the school and classrooms
- Developing effective teaching practices, attitudes and beliefs, and shaping the professional development that will support these.

Each of these broad policy areas is considered in the remainder of this section and an additional subsection on teacher professional development is provided. Within each subsection, key research questions are identified, and a framework within which to situate the questions is presented.

Teacher Recognition, Feedback, Reward and Appraisal

According to the OECD (2005), the systems and practices by which the work of teachers is recognised, rewarded and evaluated, and the nature and focus of the feedback they receive, can be instrumental in developing effective teachers and shaping their practices, beliefs and attitudes. This reflects an understanding that the status of teaching depends not only on attractive salaries, but also on effective policies in a range of areas including the quality of the relations between teachers and their colleagues, and between teachers and students, the support provided by school leaders, working conditions, and opportunities to develop skills through professional development. It is also argued that there needs to be a strong emphasis on teacher appraisal for improvement purposes, so that teachers' work can be celebrated, professional development priorities can be identified, and exemplary performance can be rewarded. Related to this, TALIS examined the types of teacher appraisal and the feedback mechanisms that are in place, how they are used, teachers' perceptions of them, and their links to rewards and professional development. Links between remuneration and appraisal are examined, and the impacts of different systems on teaching practices, beliefs and

attitudes are also considered. The main research questions identified by the OECD (2008) in this area are:

- To what degree do teachers receive internal and external evaluation and appraisal?
- What is the form and degree of the evaluation of schools and appraisal of teachers?
- In what ways are the outcomes of teacher appraisal and feedback used in schools, particularly to develop and reward teachers?
- What is the impact of appraisal and feedback on individual teachers, on teaching in classrooms, and on school development?
- How does this feed into the recognition, feedback and rewards (material and non-material) that teachers receive?
- To what extent is it related to what happens in classrooms? Are teachers rewarded, and therefore encouraged, for what they consider to be high quality, innovative and effective teaching?
- What is the effectiveness of different systems within schools, particularly on teacher co-operation, job satisfaction and security, and the practices, beliefs and attitudes of teachers?

TALIS looks at both teacher appraisal and school evaluation systems, with a focus on the latter to the extent that aspects of school evaluation may be related to teacher appraisal.

According to the OECD (2008), TALIS begins from the premise that there are three types of teacher appraisal systems:

- *administration* – where appraisal is carried out mainly for administrative purposes, and there is little or no emphasis on linking appraisal to the development or career advancement of teachers
- *accountability* – where the work and performance of teachers is monitored, and appraisal is often focused on objective measures such as student performance. Rewards and sanctions may be involved.
- *development* – where teacher appraisal aims to develop the skills and abilities of teachers, through, for example, linking professional development and performance appraisal. Outcomes may relate to development to be undertaken by teachers. This may be part of a broader school development and school leadership initiative.

The TALIS framework also identifies three school evaluation systems as they relate to teacher appraisal:

- *administrative accountability* – where the school has to provide information on its functioning to a higher administrative unit, and can receive benefits or sanctions (including financial and material ones), based on performance
- *consumer-orientated accountability* – where the information that schools provide to the outside world is particularly dedicated to facilitating choice for parents;

- *improvement-orientated internal school evaluation* (school self-evaluation) – where schools are expected to carry out internal (self) evaluations, mainly to stimulate organisational learning and self-reflection on core processes and outcomes.

The *form* of teacher appraisal and feedback in TALIS focused on frequency and personnel involved in these areas in schools, and encompasses both within-school appraisal, usually conducted by the principal teacher or senior management, and external appraisal, conducted, for example, by school inspectors. Another focus here is on the criteria taken into account during teacher appraisal, from the viewpoint of the teachers themselves as well as school principals. Examples of criteria are student test scores, professional development undertaken, innovative teaching practices and relations with students. The *outcomes* of teacher appraisal and feedback considered in TALIS include monetary and non-monetary outcomes, links to professional development, and perceptions regarding the appraisal and feedback process. Outcomes also include actions taken when weaknesses or underperformance are identified. The *impact* of appraisal and feedback is considered in terms of teachers' job satisfaction and job security, their teaching within the school, and school development.

Finally, in this area, TALIS seeks to establish links between teacher appraisal and feedback and school evaluation. This allows for establishing if the same criteria such as professional development and student discipline and behaviour are emphasised in both school evaluation and teacher appraisal contexts.

School Leadership and Management

While acknowledging that the effects of school leadership and practices on student learning outcomes are indirect and may impact on students through effects on teachers and through the school climate in the first instance, TALIS nevertheless seeks to achieve a better understanding of links between school leadership and other aspects of school effectiveness. Three key research questions were identified:

- In an era of accountability and devolution of authority in education, how can a country's principals, teachers and other key staff create and sustain effective school leadership?
- To what degree have recent new trends in school leadership affected countries' educational systems, aimed chiefly at enhancing leadership through the management of teachers, their teaching practices, and their beliefs? To what extent has this actually impacted on teacher practices, beliefs and attitudes?
- What proportion of a country's teachers works in schools with particular school leadership approaches, and what are the relationships in these schools with teacher appraisal and school culture? And how does this compare across countries?

The perspectives on school leadership included in TALIS are influenced by some broad trends in this area including:

- increasing evidence that, within schools, school leaders can contribute to improved student learning, by shaping the conditions and climate in which teaching and learning occur. The literature on school effectiveness has consistently highlighted the

pivotal role of school leadership in making schools more effective (Scheerens & Bosker, 1997; Teddlie & Reynolds, 2000; Townsend, 2007);

- a perceived shift over the past two decades from more traditional management to 'instructional leadership', where the principal is viewed as having a discernible effect on such outcomes as teaching quality, the quality of the school as a workplace, and student learning, through engagement in 'instructional leadership activities' (Pont, Nusche & Moorman, 2008; Hallinger & Heck, 1998; Walters, Marzano & McNulty, 2003).
- an acknowledgement that centrally-initiated reforms need to be linked with internal school improvement in a coherent way (Stoll, Bolam & Collarbone, 2002).

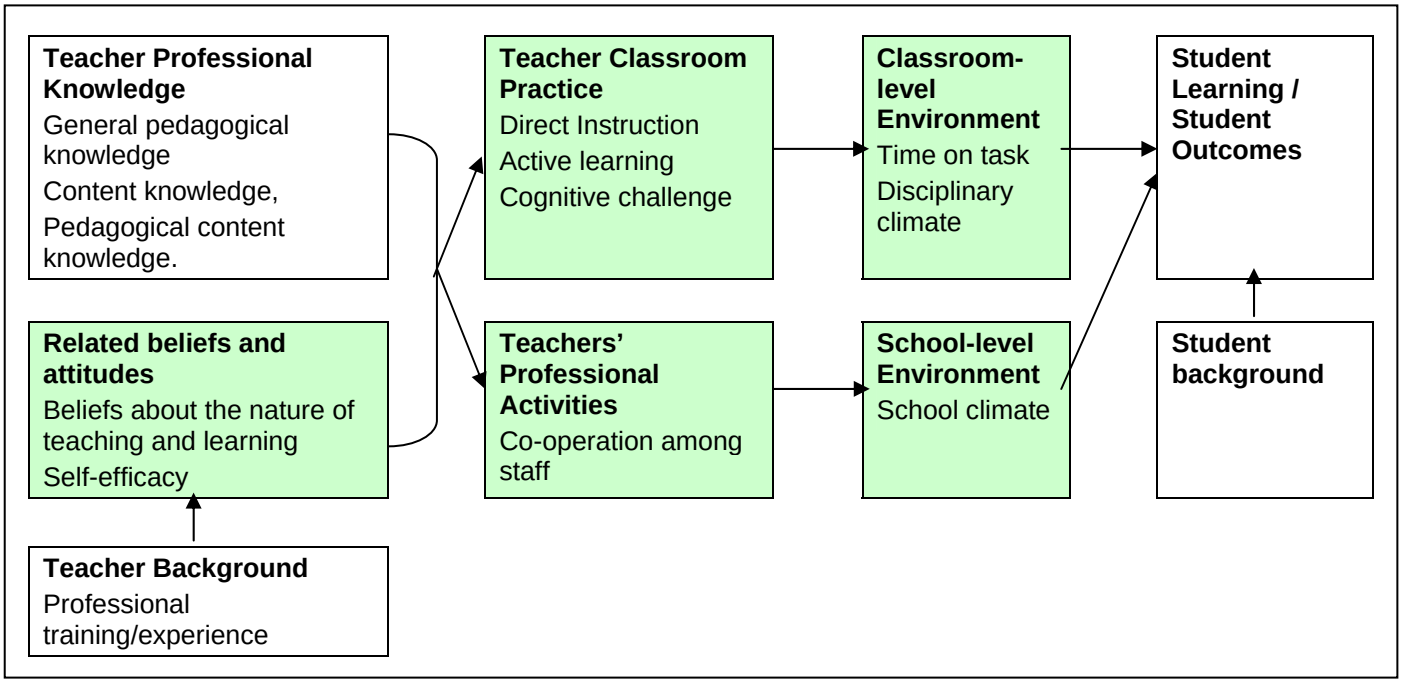
Hence, TALIS seeks to identify the leadership styles used by principals with a view to examining associations between styles and indicators of effective teaching including classroom disciplinary climate and teacher-student relations. It also seeks to examine associations between leadership styles and such variables as effective practices in relation to teacher appraisal and feedback, varying approaches to teaching, and school learning climate. In identifying leadership styles, TALIS incorporated items from The *Principal Instructional Management Scale* (PIRMS Manual, 2.2) (Hallinger, 1985). Another key source was Quinn's model of management (Quinn, Faerman, Thompson & McGrath, 1996), which identifies a range of management styles, including those focusing mainly on rational goals (characteristed by management and production), internal processes (control and co-ordination), human relations (stimulation and mentoring), and open systems (innovating and negotiating). It was anticipated that principal teachers would fall into one of four broad management styles – instructional leadership, administrative management-focused leadership, teacher-development orientated leadership, and stakeholder-focused leadership, though the possibility that some principals could draw on aspects of each of these styles was acknowledged.

Teacher Practices, Attitudes and Beliefs

While TALIS cannot examine teacher effectiveness, it covers a range of teacher and school factors which, according to the OECD (2009a) are related to student learning. The key teacher factors, including practices, attitudes and beliefs, are summarised in Figure 1.1. Those shaded in grey are addressed in this subsection.

TALIS is based on the premise that the quality of the learning environment is the most important causal factor for student learning and student outcomes, given that variables such as students' motivational capacities, prior knowledge, learning strategies, socio-economic background, and social and cultural capital cannot be measured by the survey. School climate, based on teacher-student relations and teacher support for students, averaged across teachers in a school, is an example of a school learning environment variable. Classroom disciplinary climate, based on teacher reports of the extent to which students apply themselves to learning, is used as an indicator of the classroom learning environment. These concepts are represented by the boxes for 'classroom-level environment' and 'school-level environment' in Figure 1.1.

Figure 1.1: School Climate and Teaching Factors in TALIS



Adapted from OECD (2008). Aspects of teaching practices, attitudes and beliefs included in TALIS are highlighted in green.

According to the OECD (2008), the central policy and research questions in this area are:

- How do classroom instructional practices differ between and within countries and how prevalent are practices that have been shown to be associated with enhanced student learning?
- Are these practices more prevalent in certain types of schools or demonstrated more often by certain types of teachers? How is this associated with the professional development that teachers receive?

Six related questions arise from these:

- What is the basic structure of teaching practices, of professional activities, and of beliefs and attitudes respectively?
- What profile do countries have with regard to these practices, activities, beliefs and attitudes, and how do countries differ with regard to teacher perceptions of leadership, school and classroom climate, self-efficacy, and job satisfaction?
- Do practices, activities, beliefs and attitudes vary with teacher background characteristics, especially on the kind and duration of teacher education, on in-career development activities, on subjects taught, age/years of professional experience and gender?

- Do school-level factors impact on classroom practices? Do teacher attitudes and beliefs have an impact on classroom practice? How do school-level factors and teacher beliefs/attitudes interact in affecting classroom practices?
- Are teacher beliefs and attitudes correlated with professional activities?
- To what extent can job satisfaction and self-efficacy, school and classroom climate – on the individual teacher and/or school levels – be explained by school and teacher background practices and activities?

TALIS considered instruction in schools in terms of whether it was reported by teachers to be mainly direct and explicit (i.e., strictly focused on curriculum content, using exposition, classroom discourse, individual practice, evaluation and feedback in a structured way), or mainly open-ended (i.e., student-orientated and based on constructivist views of teaching and learning). In drawing these distinctions, it was acknowledged that there is no best way to teach, and that the effectiveness of any approach may depend on cultural context and professional traditions. Hence, TALIS sought to identify different teaching profiles rather than one optimal approach to teaching. Moreover, it expected variation in teaching profiles across subjects, schools and countries. TALIS also considered the beliefs and attitudes of teachers. Two key sets of beliefs were considered – teacher self-efficacy (teachers' confidence in their ability to teach effectively) and teacher job satisfaction. The aspects of attitude that were considered relate to beliefs about instruction, and whether teachers mainly held direct transmission or constructivist beliefs. The two constructs, teacher beliefs and attitudes, and teaching practices, are identified as 'Related Beliefs and Attitudes' and 'Teacher Classroom Practice' in Figure 1.1.

Teacher Professional Development

Another important element of TALIS is the professional activities in which teachers might engage at school level such as cooperating in teams of teachers, building professional learning communities, participating in school development, and evaluating and changing work conditions. Although the TALIS framework does not pose research questions relating to professional development, the content of the questionnaires and initial international report suggest the following:

- What forms of professional development do teachers engage in, ranging from the formal and highly-structured to informal and less structured?
- What supports do schools provide to teachers participating in professional development?
- What additional professional development needs do teachers report having, and what barriers are there to participating in additional professional development?
- Which school and teacher factors explain variation in teachers' participation in professional development?
- What are the outcomes of professional development for teachers?

The TALIS Questionnaires

The TALIS questionnaires were developed by the OECD, on the advice of an International Development Expert Group. Their development represented an iterative process, with participating countries being consulted at each stage.

The final teacher questionnaire[2] consisted of five broad sections (Table 1.2). Section one asked for background information such as gender, employment status, education, and teaching experience. Section two asked about professional development including the types of professional development undertaken by teachers in the 18 months preceding the survey, the impact teachers felt that professional development had on their work, and any additional professional development needs they had. Section three asked about the frequency with which teachers' work was appraised, who conducted the appraisals, criteria considered during appraisal, and the nature of the feedback the teacher received. Section four asked about teaching practices, the attitudes and beliefs of teachers, and their perceptions about the management of the school. The fifth section asked teachers about specific teaching practices with reference to a particular 'target' class (the first Junior Cycle class they taught after 11.00 a.m. on a Tuesday). Questions focused on time allocated to instruction and other tasks and the types of teaching and assessment activities in which the teacher engaged. Estimates of the ability of students in the class, and their experience with the language of instruction were also obtained.

Table 1.2: Topics Included in the TALIS Teacher and Principal Questionnaires

Teacher Questionnaire	Principal Questionnaire
Personal Background Information	Personal Background Information
Professional Development	School Background Information
Teacher Appraisal and Feedback	School Management / School Evaluation
Teaching Practices, Attitudes and Beliefs	Appraisal of Teachers
Teaching in a Particular Junior Cycle Class	Schools Resources and Responsibilities

The principal questionnaire also comprised five sections (Table 1.2). Section one sought background information on demographic factors, education, and experience as a teacher and a principal. Section two asked for school background information including school type, staff numbers, size, sources of funding, and enrolment and admissions criteria. Estimates of the characteristics of the Junior Cycle student body (language spoken at home, parent education) were also obtained. Section three asked about the management of the school and about the frequency and focus of school evaluations – both internal and external. Section four asked about the frequency of teacher appraisal, the criteria used to appraise, and the impact of appraisals. Questions were also asked about actions taken in the event that teacher appraisals were negative. The fifth section asked about resources and the division of

[2] The international versions of the Teacher and Principal Questionnaires may be accessed at http://www.oecd.org/document/54/0,3343,en_2649_39263231_42980662_1_1_1_1,00.html. The Teacher and Principal Questionnaires for Ireland, in both English and Irish, may be accessed at www.erc.ie/talis.

responsibilities within the school. It also asked about induction and mentoring programmes offered to new and/or beginning teachers by the school.

In Ireland, the teacher and principal questionnaires included a small number of 'national' questions. These were questions specific to the Irish context that did not appear on the international versions of the questionnaires, and included, for example, questions about teaching qualifications in specific subjects.

Both teacher and principal questionnaires were designed to be completed within 40 minutes, though in practice they took considerably less time to fill in. Almost all questions were Likert-type, where teachers had to indicate the extent to which they agreed with a statement or the frequency with which they practised an activity. A small number of questions asked for numbers (e.g., percentage of class time allocated to actual teaching). The questionnaires were available in paper-and-pen and electronic (web) formats.

Implementation of TALIS in Ireland

In Ireland, the study was implemented by the Educational Research Centre (ERC), on behalf of the Department of Education and Science.

Target Population

The target population consisted of teachers of Junior Cycle students (ISCED Level 2) and the principals of the schools in which they taught. A teacher of Junior Cycle students was defined as one who, as part of their regular duties in the target school, provided instruction in programmes at the Junior Cycle level to at least one class (first, second and/or third year). School staff who were not in the target population included teacher aides (e.g., lab assistants), special needs assistants, librarians and other support staff. Also excluded were teachers teaching special needs students only, substitute, emergency or occasional teachers, teachers working exclusively with adults (even if teaching the Junior Cycle curriculum), and teachers on long-term leave (e.g. maternity leave).

Field Trial

A field trial was conducted in Ireland in March and April 2007. Twenty schools were selected to participate in the trial. Of the 20 schools sampled, 16 (80%) agreed to take part and 358 junior cycle teachers were sampled from these schools. In total, 220 teachers and 13 school principals completed questionnaires, resulting in a response rate of 62% at the teacher level and 81% at the school level. As a target response rate of 75% was required at both levels, the teacher-level response rates were a matter of concern.

In each school, a school co-ordinator was appointed by the principal. The co-ordinator distributed and collected questionnaires and returned them to the ERC. Teachers also had the option of returning the questionnaires directly to the ERC. All respondents completed questionnaires in English. Participants were given a choice as to whether they would prefer to complete the questionnaire online or in paper format. Of all participants who completed questionnaires, one principal (7%) and 39 teachers (17.7%) completed online versions of the instruments.

Data from the field trial in Ireland and in other countries were used in an international review of questionnaire items and in the preliminary identification of scales based on the items.

Main Study

The TALIS main study took place in Northern Hemisphere countries, including Ireland, in Spring 2008. (The main study took place in Southern Hemisphere countries in the final third of 2007).

Sampling Methods

A two-stage stratified sample design was used to first select schools, then teachers. At the first stage, schools were stratified on a number of characteristics to ensure that those selected were representative of schools nationally. This involved using one explicit stratification variable (school size) and three implicit variables (school type, student gender, and socio-economic status). Schools were divided into three groups based on the number of students at Junior Cycle level (ISCED level 2): small schools (120 students or less), medium schools (121 to 240 students) and large schools (more than 240 students). Within these strata, schools were sorted by school type (secondary, vocational, community/ comprehensive), student gender (male, female, mixed) and socio-economic status (disadvantaged, non-disadvantaged)[3].

Within the explicit strata, schools were selected with a probability proportional to size. This means that the larger schools had a proportionally greater chance of being in the sample than the smaller schools. Two hundred schools were randomly selected to ensure a sufficiently large sample of eligible teachers. For each school sampled, up to two replacement schools were also chosen. Replacement schools come from the same explicit strata as the original sampled schools.

At the second stage of sampling, teachers were selected within schools. In schools with fewer than 20 teachers at Junior Cycle level, all eligible teachers were selected to participate. Similarly, in schools with between 20 and 29 teachers at Junior Cycle level, all eligible teachers were selected to participate. In schools with 30 or more teachers at Junior Cycle, 20 teachers were randomly selected from a list of all eligible teachers within the school. Teachers were sampled based on gender, year of birth and main teaching domain. In total, 3470 teachers were sampled. No replacements were possible for teachers who did not participate.

Response Rates

One hundred and fifty-two originally sampled schools agreed to participate in the study. In addition, 18 replacement schools agreed to participate. This brought the initial school participation rate to 170 (85%) after replacement. Two of these schools provided incomplete teacher lists and were subsequently excluded.

[3] At the time of drawing the TALIS sample, the identification of schools for the School Support Programme (SSP) under the DEIS scheme had not been finalized. Therefore, participation in the older 'Designated Disadvantaged' scheme was used as a stratifying variable.

As teacher response rates were noted as a difficulty in the field trial, a number of measures were put into place to improve them in the main study. Firstly, all school co-ordinators were invited to attend a training session in December 2007 to explain in detail the administration of the TALIS study. Training was held in seven separate locations across the country. Sixty-five (38%) co-ordinators attended a training session. Administration manuals were provided to all school co-ordinators, while additional training materials were made available to those who did not attend a training session. Non-attending co-ordinators were also invited to contact ERC staff by telephone to discuss the project.

In addition to the training sessions, actions taken to boost response rates included developing a national TALIS website and providing schools and individual participants with an information flyer. The main teacher unions also promoted and provided support for the study. As confidentiality was raised as an important issue in the field trail, all teachers and principals were provided with a prepaid envelope for returning their questionnaires individually.

Fourteen sampled teachers indicated that they were ineligible to participate in the study. Reasons included not currently having any Junior Cycle class, working on career guidance only, being on maternity leave or long term sick leave, or being the school principal. In addition, 18 teachers returned questionnaires without responding to any of the items and two teachers contacted the ERC to indicate their refusal to participate. A further 10 teachers returned completed questionnaires but had removed the ID label, thus rendering them invalid.

Schools in which fewer than 50% of teachers return questionnaires were deemed by the OECD to be non-participating. Twenty six schools fell into this category. Therefore, the school participation rate was reduced from 168 to 142, giving an unweighted response rate of 71.0% after replacement. Within those schools that were considered to be participating, 76.4% of teachers completed and returned questionnaires. Therefore, Ireland satisfied the required teacher response rate within participating schools but was just below the required school participation rate of 75%. In Summer 2008, the ERC was required to provide data from other studies (e.g., PISA) to satisfy the TALIS sampling referee that the samples of schools and teachers were not biased (i.e., they had the same characteristics as a representative national sample of schools and teachers would have). Denmark also underwent a bias analysis and, like Ireland, its sample was deemed to be ‘fair’, and therefore could be included in reports on the study. The sample for the Netherlands, which had a school response rate below 50%, was deemed to be biased, and hence, the Netherlands was not included in the data tables in the main TALIS international report (OECD, 2009a).

Survey Administration

The main study was carried out between February and May 2008 in Ireland. In each school the principal was asked to nominate a school co-ordinator to liaise with the ERC and administer the study within the school. Approximately half of all principals chose to take on this role themselves. School co-ordinators supplied teacher listing forms with details of all teachers of Junior Cycle students and their eligibility status (without names, which were retained by the schools). This information was used to carry out teacher sampling. In

February 2008, co-ordinators were supplied with the identification numbers of those teachers selected to participate and the appropriate administration materials.

An online version of questionnaires was made available to all principals and sampled subject teachers. Each participant was provided with both a paper copy of the relevant questionnaire and details about how to access the online version. Individuals were then free to choose which version they would complete. In total, 5 of the 120 responding principals (4.2%) and 77 of the 2227 teachers (3.4%) used the online method to complete their questionnaire (Table 1.3).

The sampled schools included 12 in which the main language of instruction was Irish (7% of participating schools). As all materials had been translated into Irish, and had been adjudicated by the IEA to be equivalent to the English versions, principals and subject teachers in these schools were provided with both Irish and English versions of the materials and were free to choose which to complete. The online versions of the questionnaires were also available in Irish. Forty-eight teachers (2.2%) completed Irish versions of the questionnaire and of these, just one teacher completed the questionnaire online. A breakdown by language is not available for the principal questionnaire.

Table 1.3: TALIS Response Rates (Ireland) – Main Study – Paper and Online Versions - Spring 2008

	Teacher						Principal[1]	
	English		Irish		Total		Total	
	N[1]	% of total teacher responses	N[1]	% of total teacher responses	N[1]	% of total teacher responses	N[1]	% of total principal responses
Paper	2103	94.42	47	2.16	2150	97.83	115	95.82
Online	76	3.41	1	0.01	77	2.17	5	4.18
Total	2179	97.83	48	2.17	2227	100.00	120	100.00

[1]Breakdown by language unavailable for Principal Teachers
[2]Computed using normalised population weights

Interestingly, use of the electronic version of the Teacher Questionnaire was widespread in several countries, with over 90% of teachers in Malaysia, Denmark, Norway, Turkey, Korea and Iceland completing the online version. Similarly, over 90% of principals in these countries, and in Australia, Belgium (Fl.), Estonia and Lithuania, completed online questionnaires. The high online completion rates in some countries are due to the fact that those countries offered online administration only.

The National Context of the TALIS Study

A number of recent developments in Irish education are relevant to TALIS. These include: the publication of the *Review of Post-Primary Education* (Byrne, 2002) in which proposals for the future development of teachers in the sector were laid out; the establishment of the Teaching Council in 2005, which seeks, among other things to ‘establish best practice at all

stages on the continuum of teacher education' (Teaching Council, 2008); the implementation by schools of activities such as school self-evaluation and review with support from the School Development Planning Initiative; and the implementation of pilot induction/mentoring programmes for teachers in post-primary schools (Killeavy & Murphy, 2006).

However, one has to go back to the OECD review of educational policy in Ireland (OECD, 1991) to identify the origins of current policy on teacher development. For example, the report stated that it was necessary to 'treat induction as a distinct and discrete phase in the professional development of the teacher, with its own clearly-spelt out objectives, procedures, role definitions and resource allocations' (p. 101). Moreover, it saw induction as being 'a formal part of the responsibilities of senior staff...it must be built into the definition of their role and provided for in staffing profiles, teaching loads and salaries' (p. 101). The review saw in-service education (INSET) as addressing the total teaching career in all its aspects, extending for up to four decades. Proposals included direct participation by teachers with their peers in school-based in-service (the 'school as a learning community' model), as well as provision of courses by a range of agencies, including colleges and universities.

Coolahan (2007) shows how the thinking behind the OECD review permeated the Green Paper on Education (Ireland, 1992), the National Education Convention (1994), and the White Paper on Education (Ireland, 1995). The White Paper, for example, envisaged education institutions preparing a personal profile outlining the strengths and weaknesses of prospective teachers that would be updated at the end of induction. The White Paper also envisaged a role for school principals in assessing teachers during the induction period, and joint roles for teacher education personnel and school mentors in the induction process. Finally, the White Paper envisaged a better balance between provider-driven INSET (where the DES and other agencies determined frequency and content of courses), and INSET designed to address the needs of participants. A key measure described in the White Paper was the establishment of the Teaching Council, which would ultimately play a role in co-ordinating the provision of in-career development across the life-span of teachers. However, Coolahan (2007) noted a hiatus in policy and practice in relation to teacher education between 1995 and 2002, when a pilot induction programme for newly-qualified teachers was implemented (see Killeavy & Murphy, 2006), even though policy makers had access to ample funding during that time.

One recommendation in the *Review of Post-primary Education* was that 'the accumulation of credits to the level of award and qualification should be introduced' (Byrne, 2002, p.85), with participation in all forms of professional development being 'recognized, assessed and awarded through modular building blocks to the level of formal post-graduate awards'. The Review also recommended that continuous professional development would include an emphasis on teacher-research, where individual teachers, who are at different stages in their careers, would engage in 'professionally-centred, self-directed and experientially-focused professional development' (p.85). It was argued that such research could support teacher self-evaluation and self-actualisation. The Review suggested that the first five years of teaching (an extended induction period) might lead to a Masters Degree.

Two key areas for development were identified: personal awareness and knowledge about assessment.

In the OECD report, *Teachers Matter: Attracting, Developing and Retaining Effective Teachers* (OECD, 2005), it was noted that Ireland was one of the few OECD countries in which there was no minimum professional development requirement for teachers in a school year, while Ireland was also identified as one of the few countries 'not offering' induction programmes, though note was taken of the pilot induction project. *Teachers Matter* focused on the format of professional development, noting that 'successful programmes involve teachers in learning activities that are similar to ones they will use with their students and encourage the development of teachers' learning communities' (p.136). It also emphasised the need for countries to establish a clear or concise statement or profile of what teachers are expected to know, and what they should be able to do, arguing that 'this is necessary to provide the framework to guide initial teacher certification, teachers' ongoing professional development and career advancement, and to assess the extent to which these different elements are being effective' (p.131). In interpreting this, Coolahan (2007) noted that 'clear profiles and competencies[4] for different stages of a teaching career would help to provide a purpose and a framework for continuing professional development' (p.28).

The publication of the *National Pilot Project on Teacher Induction* (Killeavy & Murphy, 2006) was another important milestone. The report outlined the benefits of induction projects to newly-qualified teachers (NQTs) at primary and post-primary levels, and outlined how mentoring was a key component of the process. The report outlined how NQTs were supported in areas that were of particular concern to them: teaching children with special needs, and pupil behaviour and discipline. Induction was found to be helpful to teachers who had returned to the profession after being away for some time, while some mentors reported that their work with NQTs had rejuvenated their teaching.

In 2007, the Teacher Education section of the Department of Education and Science published a review of the impact of programmes for which it provides funding, including teacher in-career development (DES, 2007). In the report, the DES clarified the purpose of professional development:

> To support the implementation of an accessible and appropriate programme of quality continuing professional development that is aimed at meeting the identified and appropriately prioritised personal and professional needs of teachers, the organisational, administrative and curricular needs of school communities, and the policy needs of the education system generally, as identified by government in consultation with all the education partners (p.90).

Among the findings in the report related to professional development and the induction of newly-qualified teachers (both topics addressed in TALIS) were the following:

[4] Coolahan (2007) also noted that, in teacher education circles in Ireland, the terms knowledge, attitudes and skills, and, more neutrally, 'capability' are favoured over competence, which can have connotations with behaviourist or positivist thinking.

- Participation by post-primary teachers in local courses increased from 19% in 2003/04 to 34% in 2005/06, but continued to lag behind the corresponding rates for primary teachers.
- There was considerable variation across Education Centres in terms of the percentages of post-primary teachers attending local courses in 2005-06.
- Approximately 10% of teachers teaching Leaving Certificate history and biology did not attend inservice courses organised for them in the context of introducing revised syllabi in these subjects.

Concern was also expressed about the lack of involvement of teachers in deciding which in-career development courses to attend:

> The prescription of CPD (continuous professional development) priorities by central authorities (such as the TES, DES, NCCA) may perpetuate a culture of dependency among teachers to the extent that their professional needs are determined by others and then 'ministered' to them by 'facilitators' whom they cannot select (p.130).

TALIS extends this work by providing additional information on the participation of teachers in professional development and, to a lesser extent (given the generality of the questions asked), in induction and mentoring activities.

A disappointing finding in the DES report was the relatively small numbers participating in the Pilot Project for Induction, with just 8% of graduates at primary level, and 7% at post-primary level participating in induction courses between 2002 and 2007 (DES, 2007, Table 6.12), though in 2006/07 (the last year for which data are available), 17% of graduates at both levels took part.

A renewed emphasis on quality is also evident in the educational system in recent years. The participation of Ireland, along with other OECD countries, in the Programme for International Student Assessment (PISA), which involves the assessment of representative national samples of 15-year olds in reading, mathematics and science every three years (e.g., Eivers, Shiel & Cunningham, 2008), bears testimony to this emphasis. A focus on quality of teaching is evident in the implementation of more frequent whole school evaluations and subject inspections by the Inspectorate of the Department of Education and Science. In 2008 (the year in which TALIS was administered), 60 whole-school evaluations were conducted in post-primary schools, as were 443 stand-alone subject inspections, 225 subject inspections within whole-school inspections, 32 stand-alone programme inspections, and 10 programme inspections within whole-school inspections. Since 2006, inspection reports have been published on the Department of Education and Science website (www.education.ie). TALIS provides additional information on the extent and nature of school evaluations.

Two Irish background reports to recent OECD studies are also relevant to interpreting TALIS outcomes. Coolohan (2003) authored a country report for Ireland as part of the study on Attracting, Developing and Retaining Effective Teachers, in which he looked at policies for retaining teachers, and identified areas of need, including those in the area of

professional development. Leadership Development for Schools (2007) produced a report for the study on Improving School Leadership, in which it identified types of school leadership, and challenges facing principal teachers in attempting to increase their impact on teaching and learning. Again, the current study can be viewed as extending this earlier work.

2. A Profile of Teachers and Schools

The information on school and teacher background variables collected in TALIS provides an important context for the analyses in later chapters; i.e., the association between various background variables and outcomes of interest are examined. In addition, some important policy points can be raised in response to the demographic information presented, e.g., relating to gender differences in the make-up of the teacher workforce and, of particular interest in Ireland, the employment status of teachers.

This chapter begins by giving some background characteristics of the schools in the TALIS sample in Ireland and details the main subjects taught by teachers. A profile of lower secondary teachers in Ireland and in five comparison countries is then presented, focussing on demographic information, level of education, employment status (permanent or on a contract basis), and length of job tenure. Although the TALIS average is generally presented alongside data from the five comparison countries, there are a number of tables where this does not appear. As data from Iceland are not included in the international database, it is not possible to give accurate TALIS averages other than those contained in the international report; thus some analyses presented below, which are additional to those in the international report, do not include TALIS averages.

This chapter also outlines the characteristics of the schools in which teachers work. Details are given of average numbers of students per school in Ireland and in comparison countries, of ratios of teachers to support staff and of the percentage of lower secondary teachers in public[1] schools. Resource shortages and school climate are also examined.

TALIS Sample in Ireland

This section presents details of the types of schools participating in TALIS in Ireland and the subjects taught by participating teachers.

Background Characteristics of Schools

Table 2.1 shows, for a number of school characteristics, the percentages of schools and teachers in each category in the Irish TALIS sample. Almost two thirds of teachers work in large schools, i.e., schools with 240 or more Junior Cycle students. Over half of teachers

[1] The OECD considers a school to be public if it is managed directly or indirectly by a public education authority, government agency, or governing board appointed by the government or elected by public franchise. It identifies private schools as those which are managed directly or indirectly by a non-governmental organisation; e.g. a church, trade union, business or other private institution. In TALIS, community, comprehensive and vocational schools in Ireland are considerd to be public, while voluntary secondary schools are considered to be private.

work in secondary schools and approximately 60% of teachers work in mixed-sex schools. About one-third of teachers work in schools designated as disadvantaged[2].

Table 2.1. Percentages of Schools and Teachers in Ireland for Each Background Categorical Variable (Stratifying Variables)

	School			Teacher		
	N[1]	%	(SE)	N[2]	%	(SE)
School Size						
Small (<= 120 Junior Cycle students)	24	16.9	(0.57)	191	8.6	(0.46)
Medium (121 – 240 Junior Cycle students)	51	36.2	(0.52)	626	28.1	(0.63)
Large (> 240 Junior Cycle students)	67	46.8	(0.60)	1410	63.3	(0.73)
School Type						
Community or Comprehensive	19	13.4	(0.93)	377	16.9	(1.10)
Secondary	77	54.4	(2.09)	1233	55.4	(1.83)
Vocational	46	32.1	(1.98)	617	27.7	(1.61)
School Gender Composition						
All Male	22	15.8	(0.75)	321	14.4	(0.44)
All Female	30	21.1	(1.83)	524	23.5	(1.53)
Mixed-sex	90	63.1	(1.79)	1382	62.0	(1.53)
Disadvantaged Status						
Designated	58	40.9	(3.03)	785	35.3	(2.75)
Not designated	84	59.1	(3.03)	1442	64.8	(2.75)

[1]Total N = 142 (Schools), [2]Total N = 2227 (Teachers).

Main Subjects Taught by Teachers

Teachers participating in TALIS were asked to indicate the main Junior Cycle subjects taught in the school year in which the TALIS survey took place (2007-2008), selecting only subjects which accounted for at least 20% of their teaching time in the sampled school (Table 2.2). As individual teachers could teach more than one main subject, they had the possibility of selecting multiple response categories and thus percentages in Table 2.2 do not sum to 100.

Approximately one-third of teachers in Ireland report their main Junior Cycle subjects to be in the area of social studies, i.e., History; Geography; Civic, Social and Political Education (CSPE); Social, Personal and Health Education (SPHE); Environmental Studies (ESS) and Classical Studies. About one-third teach reading, writing and literature (including English and Irish). Approximately one-fifth teach mathematics. Practical and vocational skills (Business Studies, Typewriting and Home Economics), as well as Science, languages other than English or Irish, and Religion, are all taught by 10 to 15% of teachers. Fewer than 10% of teachers report teaching Technology (including Technical

[2] At the time of drawing the TALIS sample, the identification of schools under the DEIS scheme had not been finalised. Therefore, participation in the older 'Designated Disadvantaged' scheme was used as a stratifying variable.

Graphics, Materials Technology Wood, Metal Work and Technology), Art (Art, Craft and Design, Music) and Physical Education. A small proportion of teachers (6.5%) teach subjects classified as 'other'.

Table 2.2. Main Junior Cycle Subject Clusters Taught by Lower Secondary Teachers in the Sampled Schools During the School Year 2007 - 2008 (Percentages of Teachers)

Subject Cluster	%	(SE)
Social Studies	35.2	(0.99)
Reading, writing and literature (includes English and Irish)	34.4	(0.81)
Mathematics	22.3	(0.86)
Practical and vocational skills	14.6	(0.68)
Science	13.8	(0.56)
Languages other than English or Irish	12.8	(0.64)
Religion	10.9	(0.61)
Technology (includes technology, technical graphics, materials technology wood, metal work)	8.4	(0.61)
Arts (includes art, craft and design, music)	7.4	(0.47)
Physical Education	7.1	(0.54)
Other	6.5	(0.56)

Note: Percentages do not add up to 100 because individual teachers could teach main subjects from more than one subject cluster.

A Profile of Lower Secondary Teachers

This section gives a profile of lower secondary teachers in Ireland and comparison countries Austria, Belgium (Fl.), Denmark, Norway and Poland. Teacher demographics are compared across countries, and where possible, compared to TALIS country averages.

Teachers' Gender

Across all TALIS countries, the majority of teachers are female. Figure 2.1 shows the percentage of female teachers and principals in Ireland and in comparison countries Austria, Belgium (Fl.), Denmark, Norway and Poland.

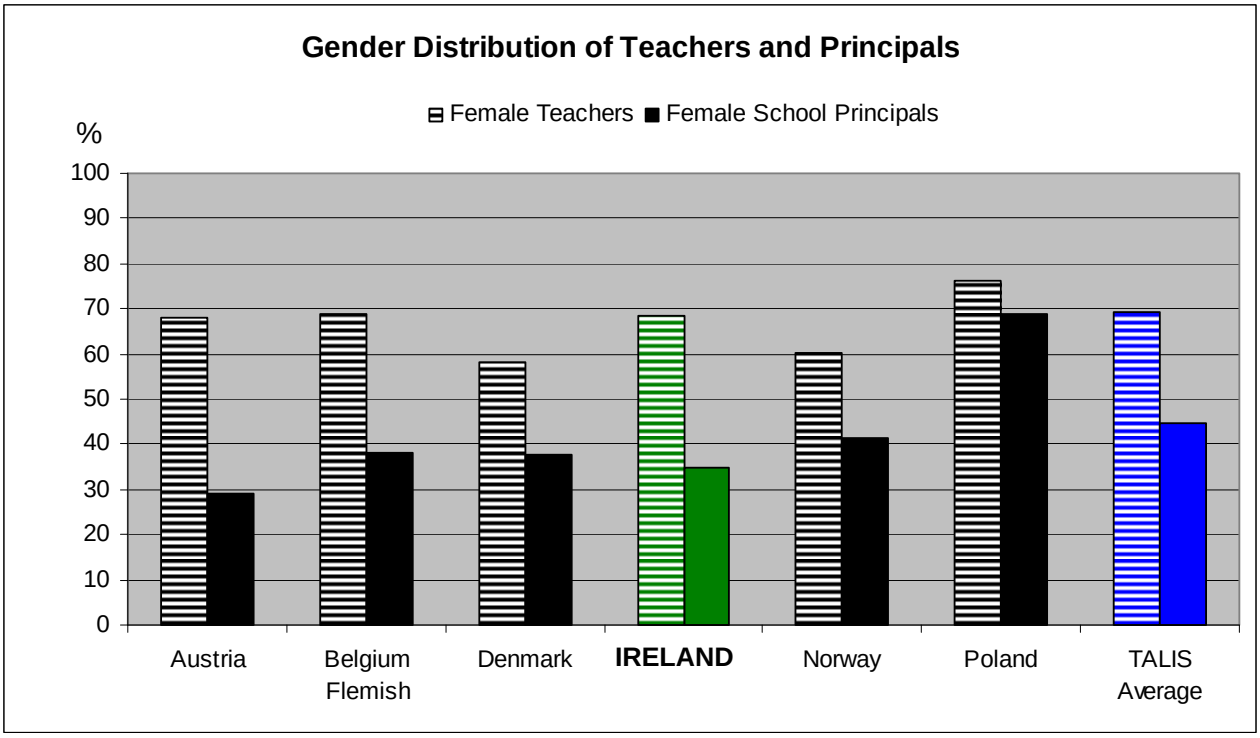
The percentage of female teachers in Ireland (68.6%) is very close to the TALIS average of almost 70%[3]. In Poland, the gender difference is more pronounced with females making up 76% of the lower secondary teacher cohort. This contrasts with other TALIS countries (not shown) such as Turkey and Mexico, where just over half of teachers are female (52.0% and 53.2% respectively).

At just 35%, the percentage of female school principals in Ireland is about 10% lower than the TALIS average of 45%. The TALIS country with the largest percentage of female principals is Brazil, where over three quarters of principals are female. The existence of a 'glass ceiling' in many countries is noted by the OECD (2009a) and Ireland is highlighted

[3] Note that this figure is higher than the 62.2% reported in the OECD's (2009b) *Education at a Glance* which combined lower and upper secondary teachers in Ireland.

as one of eight countries where the percentage of female school principals is over 30 percentage points below the percentage of female teachers. The finding that women are under-represented at senior management levels in Irish education is not new; Lynch (1994) examined the low percentages of women applying for, and being appointed to, principal positions in Ireland in the early 1990s, and discussed reasons for this.

Figure 2.1. Percentages of Teachers and Principals, by Gender – Ireland, Comparison Countries and TALIS Country Average



Source: OECD, 2009a, Table 2.1

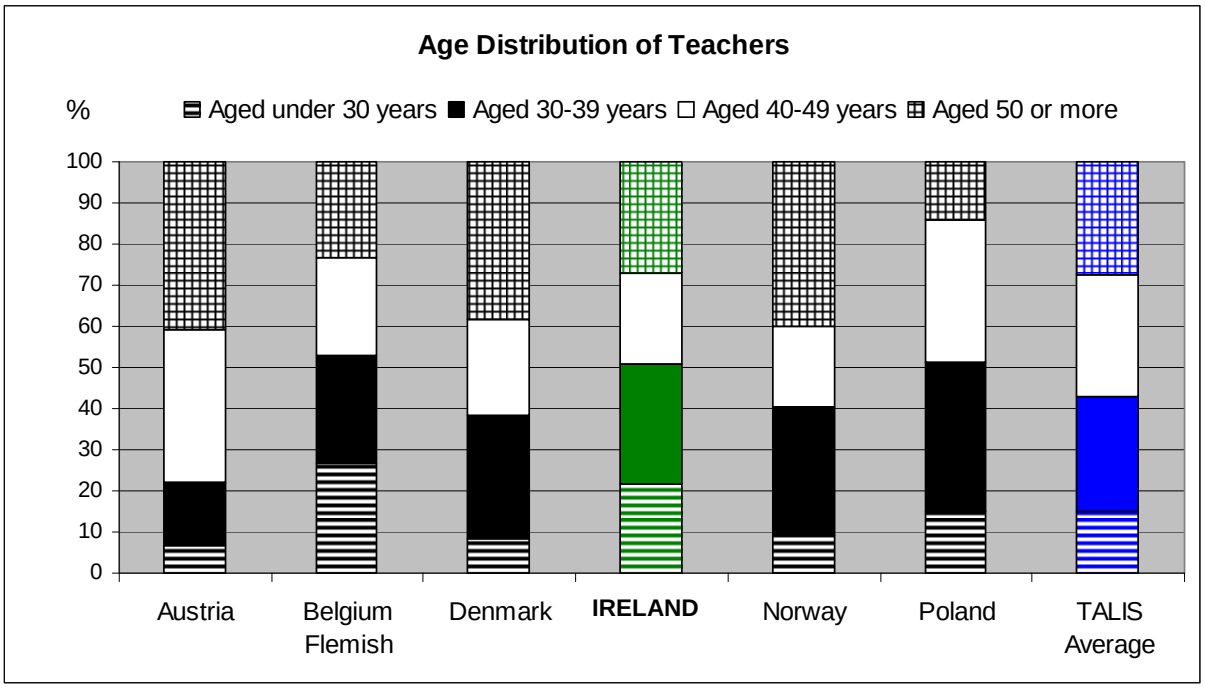
Teachers' Age Profiles

Figure 2.2 shows the age distribution of teachers in Ireland, in the five comparison countries and on average across TALIS countries. The percentage of teachers in Ireland and Belgium (Fl.) aged under 30 is notably higher than in the other comparison countries. In Ireland, just over one-fifth of lower secondary teachers are aged below 30[4], compared to in Austria, Denmark and Norway where fewer than 10% of teachers are aged under 30. Turkey is highlighted by the OECD (2009a) as a country with a comparatively young teacher workforce; 44% of teachers in Turkey are under 30 years old and almost 80% are under the age of 40.

[4] Note that this figure is higher than that reported in *Education at a Glance* (OECD, 2009b) which presents the percentages of teachers by age category but combines lower and upper secondary education in Ireland. The percentages of teachers in Ireland across lower and upper secondary education in the various age categories reported in *EAG* are as follows: < 30 years: 13.4%; 30-39: 29.4%; 40-49: 25.0%; 50 or over: 32.2%.

Concerns have been raised about an ageing teacher population (OECD, 2005). On average across TALIS countries, 27% of teachers are aged 50 or more. The issue of an ageing teacher workforce is more pronounced in three of the comparison countries, i.e., Austria, Denmark and Norway, than in Ireland. Approximately 40% of teachers in Austria, Denmark and Norway are aged 50 or more, compared with Ireland where under 30% of teachers are in this age group.

Figure 2.2. Percentages of Teachers, by Age – Ireland, Comparison Countries and TALIS Country Average



Source: OECD, 2009a, Table 2.1

Teachers' Educational Attainment

Figure 2.3 shows the highest level of formal education completed by lower secondary teachers in Ireland and comparison countries, as well as on average across TALIS countries. Formal education is classified according to the ISCED system (International Standard Classification of Education, OECD, 1999) which allows levels of education to be compared across countries. ISCED level 5B represents the first stage of tertiary education (third level certificate or diploma, not to degree level); ISCED level 5A represents a Bachelor degree or a Masters degree. ISCED level 6 represents further education at tertiary level which leads to an advanced qualification such as a PhD.

Large differences in levels of teacher education are found across TALIS countries. Among lower secondary teachers in Ireland, Denmark and Norway, a Bachelor degree is the most common level of education. For almost 80% of teachers in Ireland[5] and Norway,

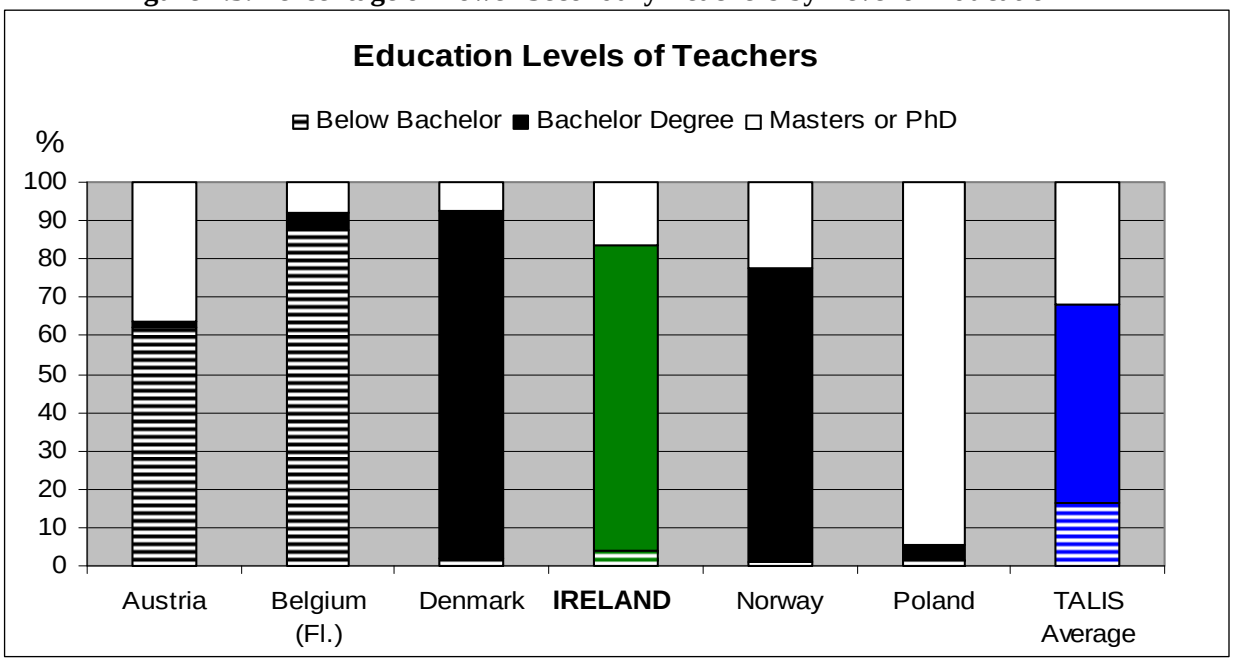
[5] Information is not available from TALIS on the percentage of teachers in Ireland with a postgraduate diploma in education but a substantial proportion of teachers are likely to have this qualification. Cosgrove,

a Bachelor degree represents their highest level of educational attainment, while in Denmark, this figure is 90%.

Differences exist between Ireland, Denmark and Norway regarding the percentage of teachers with qualifications at the level of Masters or PhD. As the percentages of teachers with PhDs are very low (fewer than 1% of teachers in Ireland, Belgium (Fl.), Denmark, Norway and Poland, and just under 3% of teachers in Austria), doctorates are not shown separately in Figure 2.3. In Denmark, under 8% of teachers have completed a Masters or PhD. In Ireland, the percentage is approximately twice that of Denmark at almost 17%, while in Norway, about 23% of teachers are qualified to the level of Masters or PhD. In Poland, the vast majority of teachers are educated to the level of Masters or PhD; 94% of teachers have a Masters degree.

In Belgium (Fl.) and Austria, the highest level of education of most lower secondary teachers is at or below ISCED level 5B, reflecting the fact that, for many, initial teacher training involves completion of a diploma-type course. In Austria, approximately one third of teachers hold a Masters or PhD; very few teachers report a Bachelor degree as their highest level of formal education.

Figure 2.3. Percentage of Lower Secondary Teachers by Level of Education



Source: OECD, 2009a, Table 2.2

Related to the issue of teacher education, teachers in Ireland were asked which Junior Cycle subjects, if any, they currently teach for which they were not formally prepared, i.e., did not study to degree or diploma level. Just over 1% of teachers in Ireland report teaching any subjects for which they were not formally prepared (1.09%, SE 0.23). CSPE and SPHE are those most commonly mentioned. However, when asked about teaching in a

Shiel, Oldham & Sofroniou (2004) found that about 88% of mathematics teachers in Ireland had a Higher Diploma in Education (or equivalent).

specific class[6], 8% of teachers in Ireland reported that this subject was not part of their pre-service teacher training (of course this does not preclude teachers from having later gained qualifications in the subject). In this regard, Ireland is similar to Austria and Belgium (Fl.); in both of these countries, the percentages of teachers reporting that the subject taught in the specific target class was part of their pre-service training is above 90% (see Table 2.3). Almost all teachers in Poland report that the subject taught in the target class was part of their pre-service training. In Denmark and Norway, higher percentages of teachers report teaching a subject which was not part of their pre-service training.

Table 2.3. Percentages of Teachers Reporting that the Subject Taught in a Specific Class was Part of their Pre-service Training – Ireland and Comparison Countries

	Yes, subject was part of pre-service training		No, subject was not part of pre-service training	
	%	SE	%	SE
Austria	91.3	0.53	8.7	0.53
Belgium (Fl.)	91.8	0.72	8.2	0.72
Denmark	83.4	1.13	16.6	1.13
Ireland	92.0	0.57	8.0	0.57
Norway	86.6	0.84	13.4	0.84
Poland	99.4	0.18	0.62	0.18

The low percentage of teachers in Ireland reporting that they teach subjects for which they were not formally prepared is surprising, as this practice is commonly believed to be widespread, particularly in the area of mathematics teaching (see e.g., RIA, 2006). Cosgrove *et al.* (2004) present results of a survey of mathematics teachers carried out in schools participating in PISA 2003 which shows that just over 80% of mathematics teachers reported that their degree included a component of mathematics. When asked about the major components of their degrees, 71% reported that their qualifications were related to the field of mathematics, while about 29% of mathematics teachers did not have mathematics as a major component of their degree.

A more recent study of this issue in Ireland (Ní Ríordáin & Hannigan, 2009), albeit with a significantly smaller sample size than TALIS, found that out-of-field teaching of mathematics (defined as 'teachers assigned by school administrators to teach subjects which do not match their training or education', *ibid.*, p.275) is widespread, but that there is a discrepancy between what teachers are actually qualified to teach according to the Teaching Council (2009) and what they feel qualified to teach. According to Ní Ríordáin & Hannigan (2009) a large percentage (63%) of teachers who are unqualified to teach mathematics actually feel that their qualifications are adequate.

The phrasing of the TALIS questionnaire items may lead teachers to respond that the subject they teach was part of their pre-service training, even if it was only a relatively

[6] The first Junior Cycle class taught in one of the teacher's main subjects after 11am on Tuesdays

minor component which does not in fact qualify the teacher to teach this subject according to the Teaching Council guidelines[7]. These stipulate that teachers should have studied the subject in question as a major subject in their degree extending over at least three years and of the order of 30% at a minimum of that period.

Some differences also emerge in TALIS between the subjects in terms of the percentages of teachers in Ireland reporting that the subject did not form part of their pre-service training (Table A2.1, Appendix A), with this practice reported to be least common for Physical Education, Arts, Practical subjects and Science.

Teachers' Contractual Status

In Ireland, just under three quarters of lower secondary teachers are permanently employed, which is lower than the corresponding percentage in each of the five comparison countries (see Figure 2.4). Of these, Poland is the only other country with fewer than 80% of teachers on permanent contracts. In Belgium (Fl.), just over 80% are permanently employed, while in Austria and Norway, almost 90% are permanently employed. Denmark, with almost 97% of teachers permanently employed, has the second highest percentage of permanently employed teachers across TALIS countries, behind Malaysia (98%).

In Ireland, almost 8% of teachers are on fixed term contracts[8] of more than one school year. This is above the TALIS average of approximately 4.5%, and above the levels in each of the comparison countries. Of all TALIS countries, Portugal has the highest percentage of teachers on fixed-term contracts of more than one school year (15%). The percentage of teachers in Ireland on fixed-term contracts of more than one school year is similar to that in Brazil (7%).

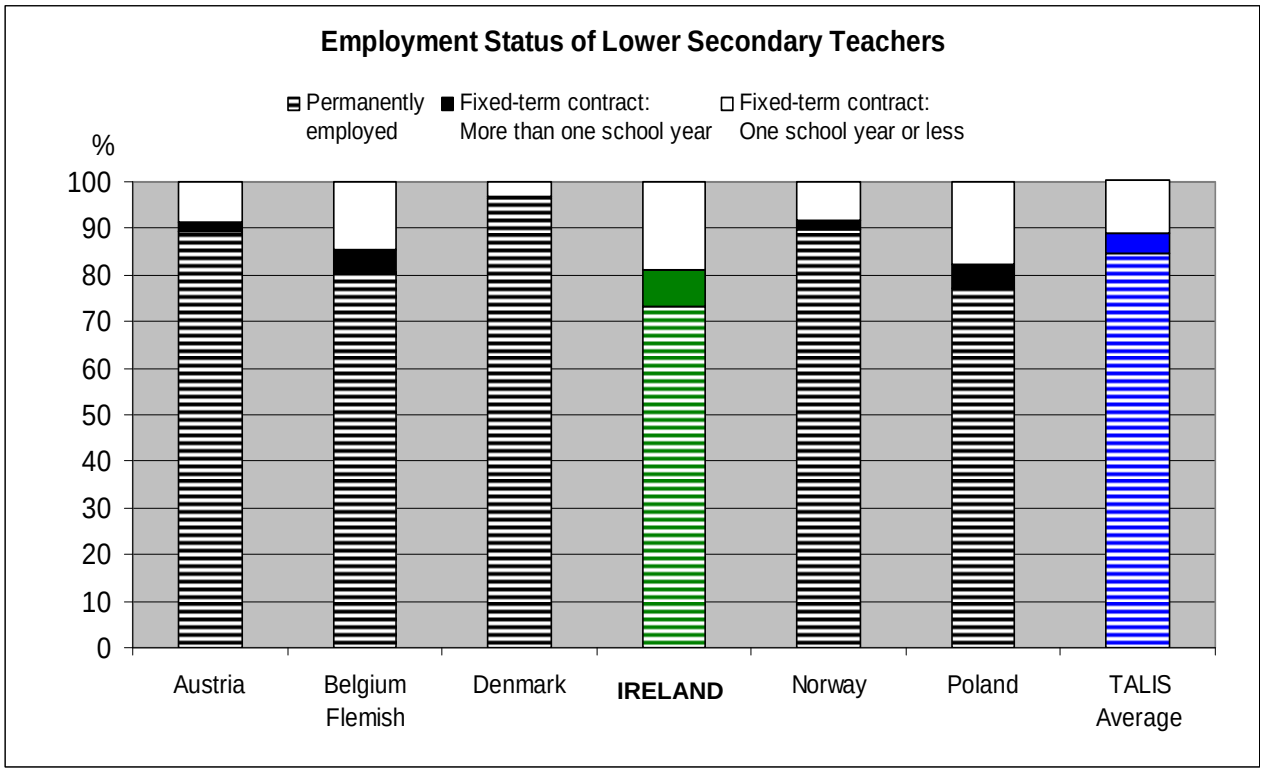
A further 19% of teachers in Ireland are on fixed term contracts of one school year or less. This is higher than the TALIS average of approximately 11% and higher than the figure for each of the comparison countries.

Table 2.4 shows the employment status of teachers by school type in Ireland. Some differences are found between the different school types. The only statistically significant difference is found between secondary schools and vocational schools in the percentages of teachers permanently employed, with the percentage of teachers in permanent employment in secondary schools significantly higher than the percentage in vocational schools (95% Bonferroni-adjusted confidence interval of the difference: [1.01, 13.79]).

Contractual status appears closely associated with teachers' age in Ireland (Table 2.5). Only about one quarter of teachers aged under 30 are permanently employed compared with almost 95% of those aged 50 or more. Conversely, over half of teachers aged under 30 are on fixed term contracts of one year or less, compared to only 3% of teachers aged 50 or more.

[7] Note these appear to be somewhat stricter than practices in place heretofore.
[8] Some of these teachers are likely to hold contracts of indefinite duration, which can be regarded, in some respects, to be equivalent in status to permanent contracts.

Figure 2.4. Employment Status of Lower Secondary Teachers – Ireland, Comparison Countries and TALIS Country Average



Source: OECD, 2009a, Table 2.3

Table 2.4. Employment Status of Lower Secondary Teachers in Ireland by School Type

	Permanently Employed		Fixed-term contract: More than 1 school year		Fixed-term contract: 1 school year or less	
	%	(SE)	%	(SE)	%	(SE)
Community/ Comprehensive	74.8	(2.50)	6.5	(1.84)	18.7	(2.41)
Secondary	75.6	(1.45)	7.0	(0.90)	17.4	(1.33)
Vocational	68.2	(2.24)	10.2	(1.04)	21.6	(1.91)

Table 2.5. Employment Status of Lower Secondary Teachers in Ireland by Teachers' Age

	Permanently Employed		Fixed Term Contract for More than 1 Year		Fixed Term Contract of One Year or Less	
	%	(SE)	%	(SE)	%	(SE)
Under 30	27.1	(2.72)	19.5	(2.45)	53.4	(2.57)
30 - 39	76.4	(1.76)	7.9	(1.19)	15.7	(1.42)
40 - 49	89.4	(1.49)	2.7	(0.75)	8.0	(1.34)
50 or more	94.5	(1.17)	2.5	(0.63)	3.1	(0.91)

Teachers' Job Tenure

In Ireland, approximately 7% of teachers are in their first two years of teaching, slightly below the TALIS average of approximately 8% (Figure 2.5). A further third of teachers in Ireland are working for between 3 and 10 years, which is slightly above the TALIS average. A quarter of teachers in Ireland are working for between 11 and 20 years and over a third for 20 years or more; both of these are around the TALIS average. It is interesting to note the low percentage of teachers, at just 4.4%, in their first two years of teaching in Austria and conversely, the high percentage of teachers with 20 years or more experience (57%). Excluding Austria, the pattern across comparison countries shown in Figure 2.5 is broadly similar to that seen in Ireland.

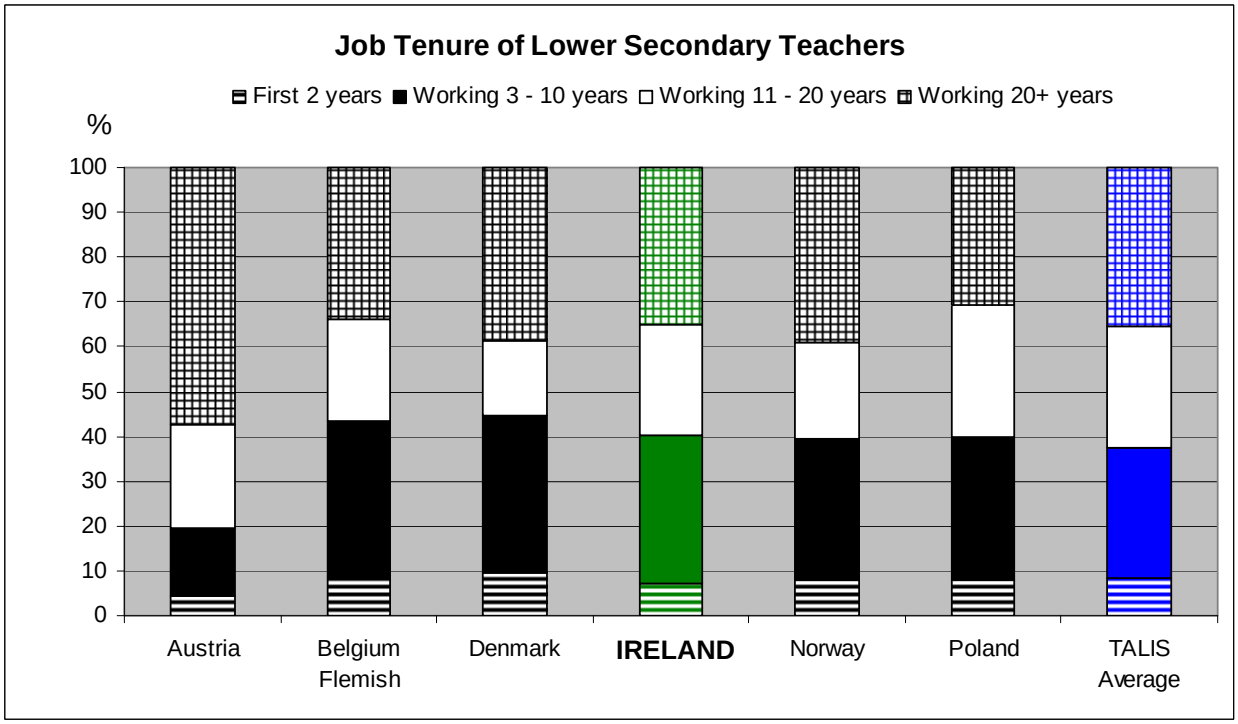
In addition to overall teaching experience, teachers in TALIS were asked about the length of time they have worked in their current school (see Figure 2.6; Table A2.2, Appendix A2). In general, teachers in Austria appear to stay in one school for much of their career, with over 40% of teachers working for 20 years or more in their current school. This is also likely to be linked to the larger proportion of older (aged 50 or more) teachers in Austria. It contrasts with the situation in Ireland, where a quarter of teachers are working for 20 years or more in their current school (26%). Belgium (Fl.), Denmark and Norway are similar to Ireland in terms of percentages of teachers teaching in their current school for 20 years or more (about one quarter). Another important factor in determining length of tenure in teachers' current schools may be whether teachers are employed by the school or by some other unit (e.g., district or local education authority), which assigns them to schools on a needs basis.

In Ireland, 16% of teachers are in their first two years at their school, which is similar to what is found in Belgium (Fl.), Norway and Poland (13%, 17% and 19% respectively). The percentage of teachers in Denmark (22%) in their first two years at their schools is over twice that in Austria (10%).

Previous research in the Irish context had pointed towards a higher turnover of teachers in schools with large numbers of students from disadvantaged backgrounds (Coolahan, 2003; see also Eivers, Shiel & Shortt, 2004, regarding teacher turnover in disadvantaged schools at primary level). However, the TALIS data show little difference between disadvantaged and non-disadvantaged schools in terms of the percentages of teachers in their first two years at their current school (16.2%, SE 1.04 and 15.8%, SE 1.86 respectively). If teachers tended to stay in disadvantaged schools for shorter periods of time, it could be expected that percentages of teachers in their first two years in such schools would be higher. Equally, it might be expected that teachers in disadvantaged schools would tend to be younger, but no evidence of this emerged in TALIS (see Table A2.3, Appendix A2).

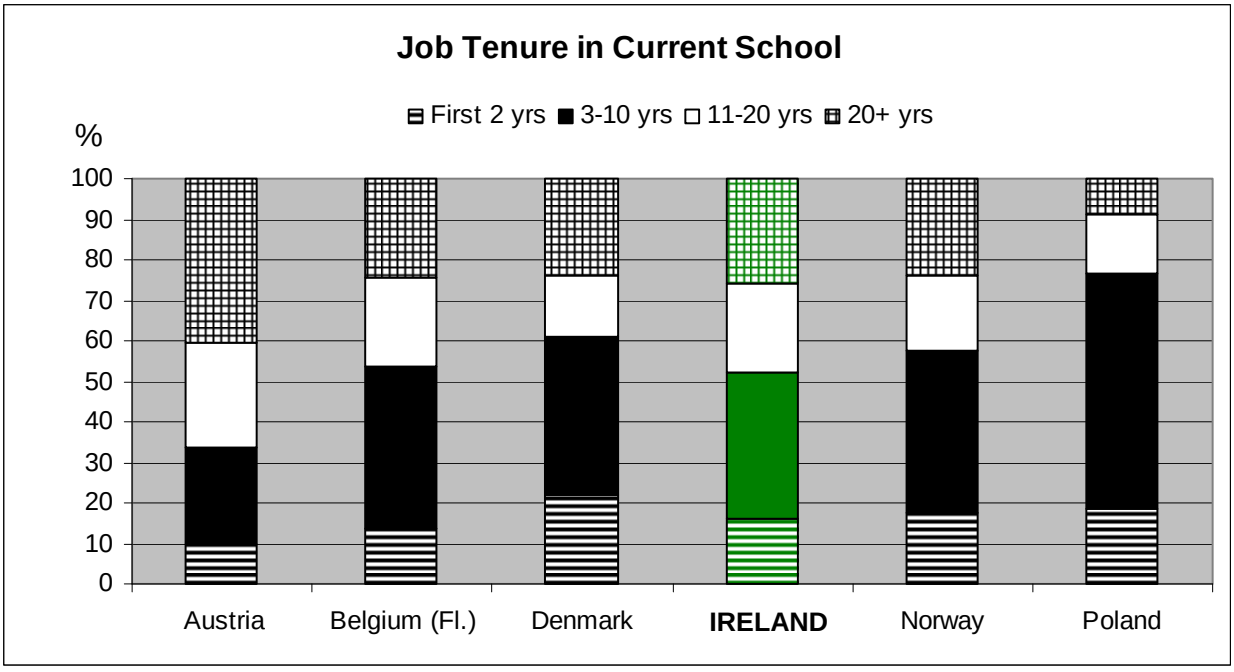
Teachers in Ireland were asked to indicate whether or not they belonged to a particular category of teachers defined as Deputy Principals, Assistant Principals, Special Duties Teachers and Teachers with a Special Functions Allowance. Just over half of teachers indicated that they belong to this category (53.3%, SE 1.05), which is very close to the percentage of teachers reported in 2003 to be in receipt of either Principal, Deputy Principal, Assistant Principal or Special Duties allowances (Coolahan, 2003, p.51).

Figure 2.5. Job Tenure in Ireland, Comparison Countries and TALIS Average



Source: OECD, 2009a, Table 2.3

Figure 2.6. Job Tenure in Current School of Lower Secondary Teachers in Ireland and Comparison Countries



A Profile of the Schools in which Teachers Work

This section describes the schools in TALIS countries where lower secondary teachers work. Much of the information in this section comes from the principal questionnaire. Details are provided of the average class size across TALIS countries, levels of administrative support in schools and the resources available to schools. The levels of autonomy which principals perceive schools to have are discussed. Findings related to principals' views on school climate are presented. In addition, findings from the teacher questionnaire related to teachers' time use are examined.

School Background Information

The average number of students in schools in Ireland is 455, which is below the TALIS average of 489 (see Table 2.6). Schools in the TALIS survey with the largest number of students are found in Malaysia (not shown), where there are on average 1046 students per school. This contrasts with schools in Poland and Norway which have the lowest average numbers of students per school in the TALIS sample, with an average of just over 240 students per school in each.

The ratio of teachers to personnel for pedagogical support (non-teaching personnel who provide instruction or support teachers in providing instruction such as Teachers' Aides, Special Needs Assistants or Lab Assistants) varies greatly across TALIS countries, ranging from 5.7 in Iceland (not shown) to 24.1 in Austria. The higher the ratio of teachers to pedagogical support personnel, the less support there is for each teacher. The ratio in Ireland of 15.8 teachers to each pedagogical support staff member is above the TALIS average of 13.3. Looking at the comparison countries in Table 2.6, Norway, Poland and Denmark have lower ratios of teachers to pedagogical support personnel than Ireland, while ratios are higher in Austria and Belgium (Fl.) than in Ireland. It should be noted that TALIS does not provide a breakdown on the tasks completed by various support personnel.

The ratio of teachers to the number of school administrative or management personnel (including secretarial staff and principals or deputy principals involved in full-time administration) also varies across TALIS countries. As with the ratio of teachers to personnel for pedagogical support, Austria has a high ratio of teachers to administrative or management staff. The ratios in Belgium (Fl.) and Ireland are very similar and, along with Poland, are above the TALIS average. The ratios in Norway and Denmark are below the TALIS average.

At 21.9 students, the average class size in Ireland is found to be below the TALIS average of 23.5. However, average class size in Ireland is similar to the comparison countries shown in Table 2.6, with the exception of Belgium (Fl.) which has somewhat smaller classes (17.5 students on average - the lowest across all TALIS countries). Very large classes are found in Brazil, Korea, Malaysia, Mexico and Turkey, where average class size ranges from 31.3 in Turkey to 37.8 in Mexico.

In Norway and Poland, over 90% of teachers work in public schools. In Austria, almost 90% of teachers work in such schools while in Denmark, the figure is about 72%. Percentages for Ireland and Belgium (Fl.) are lower, 45% and 28% respectively. It is

important to emphasise that although secondary schools in Ireland are classified as private schools because they are under private management, most are not fee-paying. Similarly, in Belgium (Fl.), private schools are normally government-dependent.

It is useful to examine in more detail the data presented in Table 2.6. Table 2.7 presents data from Ireland, broken down by school type and school disadvantaged status. Community or comprehensive schools have on average greater numbers of students than secondary or vocational schools. Schools which are designated disadvantaged have on average fewer students than those which are not designated disadvantaged.

In secondary schools, there is on average one pedagogical support staff person for every 19 teachers. The ratio is somewhat lower in community/comprehensive and vocational schools, at 12.8 and 12.2 respectively. In disadvantaged schools, there is on average one pedagogical support staff for every 12 teachers, whereas the ratio rises to 18.4 teachers to one pedagogical staff member in non-disadvantaged schools.

Average class size across teachers, at lower secondary level, is somewhat lower in vocational schools and in designated disadvantaged schools than in the other school types.

Little difference in the overall ratio of teachers to administrative or management staff is found between school types or by disadvantaged status. For Irish data only, it is possible to examine the numbers of secretarial staff separately from the number of teachers involved in full-time administration. Across all schools, there is an average of 3.9 members of administrative staff and 1.8 members of management staff per school. As might be expected, there is a tendency for larger schools to have greater numbers of administrative and management personnel (Table 2.8).

Table 2.6. Average Numbers of Students, Teacher Support Ratios and Percentage of Lower Secondary Teachers in Public Schools in Ireland and Comparison Countries

	Mean number of students in schools[1]	Ratio of teachers to number of personnel for pedagogical support[1]	Ratio of teachers to number of school administrative or management personnel[1]	Average class size (at lower secondary level)	Percentage of teachers in public schools
	Mean	Mean	Mean	Mean	%
Austria	300.6	24.1	22.6	21.1	89.1
Belgium (Fl.)	491.2	20.5	11.7	17.5	27.6
Denmark	340.4	9.1	7.5	20.0	71.5
Ireland	454.5	15.8	11.1	21.9[2]	45.2[3]
Norway	243.0	7.0	8.3	21.4	96.3
Poland	242.2	9.4	9.0	20.8	94.4
TALIS average	489.1	13.3	8.4	23.5	83.1

Note: Associated standard errors are provided in Table A2.4, Appendix A.
[1]Data refer to number of students, ratios or percentages of teachers, in schools where lower-secondary teachers work. They may therefore extend across ISCED levels in schools that span ISCED levels (e.g., schools offering both lower and upper-secondary education).
[2]Note that a lower figure of 20.3 for average class size at lower secondary level is given in the OECD's (2009b) *Education at a Glance*. Differences may be the result of differences in the method of computation. Average class size in TALIS was computed from teachers' responses to the question on the number of students in a specific target class. The country average was computed as the average class size across the individual teachers in the country.
[3]Percentage given is that in TALIS international report (OECD 2009a, Table 2.4) which excludes missing data on school funding source for 15.6% of teachers. Re-classifying all community, comprehensive and vocational schools in the Irish sample as public, and secondary schools as private, gives the following percentages: 44.6% of teachers (SE 1.83) work in public schools and 55.4% (SE 1.83) in private schools.
Source: OECD (2009a, Table 2.4)

Table 2.7. Average Number of Students Per School, Teacher Support Ratios and Average Class Size in Ireland by School Type and Disadvantaged Status

	Average number of students in schools (averages across schools)		Ratio of teachers to number of personnel for pedagogical support		Ratio of teachers to number of school administrative or management personnel		Average Class Size (averages across teachers)	
	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)
School Type								
Comm./Comp.	551.7	(28.26)	12.8	(2.07)	11.2	(0.46)	22.5	0.38
Secondary	452.6	(16.50)	19.1	(1.75)	10.5	(0.53)	22.5	0.26
Vocational	413.4	(20.54)	12.2	(1.41)	12.1	(0.86)	20.3	0.44
Disadvantaged Status								
Not designated	501.6	(18.44)	18.4	(1.50)	10.7	(0.45)	22.9	0.22
Designated	375.1	(18.60)	12.2	(1.28)	11.7	(0.76)	20.0	0.41

Table 2.8. Average Numbers of School Administrative Personnel and Management Personnel Per School in Ireland, Overall and by School Size

	Average number of school administrative personnel (secretarial staff)		Average number of school management personnel	
	Mean	(SE)	Mean	(SE)
Ireland - overall	3.9	(1.31)	1.8	(0.15)
School Size				
Small (<= 120 Junior Cycle students)	1.2	(0.10)	1.2	(0.18)
Medium (121 – 240 Junior Cycle students)	5.0	(3.26)	1.9	(0.43)
Large (> 240 Junior Cycle students)	4.0	(1.36)	2.0	(0.07)

School Resources

Tables 2.9 and 2.10 show the percentage of teachers in schools in Ireland and comparison countries where the principal considered various issues to hinder instruction 'a lot' or 'to some extent'. Further breakdown of the percentages for Ireland is provided in Table 2.11 where the percentages of teachers in schools are divided into those where the principal reported that instruction is hindered 'a lot' and those where it is hindered 'to some extent'.

Looking firstly at issues related to a lack of personnel (Table 2.9), Ireland is near the TALIS average for the percentage of teachers in schools where a lack of qualified teachers is perceived by principals to hinder instruction. Of the comparison countries, Poland is the country with the lowest percentage of teachers working in schools where a lack of qualified teachers is believed to hinder instruction. Almost half of teachers in Austria work in schools where this is reported by principals as a problem. Coolahan (2003) noted that principal teachers in Ireland at that time commented on difficulties in recruiting and retaining teachers in subject areas such as Construction Studies, Engineering, Materials Technology and I.T., as there was strong demand for graduates in these areas in the non-school job market. Current economic difficulties are likely to have reduced this problem, as there are fewer employment opportunities in the construction sector. Nonetheless, over one-third of teachers in Ireland work in schools where the principal believes that a lack of qualified teachers hinders instruction.

Ireland is above the TALIS average for the percentage of teachers in schools where a lack of laboratory technicians, a lack of instructional personnel and a lack of other support personnel are perceived to hinder instruction. With almost 83%, Ireland has the highest proportion of teachers across all TALIS countries working in schools where a lack of laboratory technicians is believed to hinder instruction. The TALIS average on this measure is approximately 33% of teachers.

Similar to Austria, Ireland has almost two thirds of teachers working in schools where the principal reported that a lack of instructional personnel hinders instruction 'a lot' or 'to some extent'. Instructional support personnel include Teachers' Aides, Special Needs Assistants, and other non-teaching personnel who support teachers in providing instruction.

Just under two thirds of teachers in Ireland work in schools where a lack of other support personnel is reported as a problem by principals.

Table 2.9. Percentages of Teachers in Schools where the Principal Considered Specified Personnel Resource Issues to Hinder Instruction 'A Lot' or 'To Some Extent'

	A lack of qualified teachers		A lack of laboratory technicians		A lack of instructional personnel		A lack of other support personnel	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	48.8	(3.12)	21.3	(2.66)	68.7	(3.08)	77.5	(2.82)
Belgium (Fl.)	31.5	(3.76)	7.3	(2.14)	36.7	(3.89)	35.5	(4.11)
Denmark	28.2	(4.44)	3.3	(1.84)	25.4	(4.13)	17.5	(3.77)
Ireland	38.4	(4.63)	82.6	(3.64)	63.6	(5.00)	62.7	(4.69)
Norway	29.7	(3.71)	29.6	(4.14)	51.1	(4.97)	43.7	(5.08)
Poland	11.8	(2.85)	21.0	(3.50)	21.3	(3.16)	19.0	(2.71)
TALIS Average	37.5	(0.77)	32.9	(0.72)	47.5	(0.80)	45.9	(0.74)

Source: OECD (2009a, Table 2.5)

Table 2.10 presents data related to material resources. The percentage of teachers in Ireland in schools where a shortage or inadequacy of instructional materials is reported as a problem is the same as the TALIS average of 34.2%.

A shortage of computers is perceived to be a greater problem in Ireland than in any of the comparison countries. In Ireland, almost 63% of teachers work in schools where a shortage of computers is reported to hinder instruction. This contrasts with approximately a quarter of teachers in Austria and in Denmark, approximately one third in Belgium (Fl.) and in Poland, and just over 40% in Norway.

A shortage or inadequacy of library materials is noted in schools where 66% of teachers work in Ireland. This is above the TALIS average of almost 41%, and above the percentages reported for each of the comparison countries.

For shortages or inadequacy of other equipment, Ireland is again above the TALIS average and above each of the comparison countries.

Using data from PISA 2006, it is possible to compare the average number of computers for instruction per student in Ireland and in each of the comparison countries[9] (see Table 2.11). With an average of 0.10 computers for instruction per student, Ireland is below the OECD average of 0.15. Of the comparison countries, only Poland has a lower average number of computers per student than Ireland. Austria, Denmark and Norway have above the OECD average numbers of computers per student, with averages of 0.23, 0.18 and 0.22, respectively (OECD, 2007).

[9] Note that both French and Flemish regions of Belgium participated in PISA, while only the Flemish region participated in TALIS.

Table 2.10. Percentages of Teachers in Schools where the Principal Considered Specified Material Resource Issues to Hinder Instruction 'A Lot' or 'To Some Extent'

	Shortage or inadequacy of instructional materials		Shortage or inadequacy of computers for instruction		Shortage or inadequacy of library materials		Shortage or inadequacy of other equipment	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	12.2	(2.30)	25.5	(2.90)	16.8	(2.55)	35.0	(3.44)
Belgium (Fl.)	13.7	(2.74)	33.2	(3.78)	23.9	(3.43)	29.7	(3.78)
Denmark	23.1	(4.10)	22.6	(4.13)	25.5	(4.55)	27.5	(5.01)
Ireland	34.2	(4.44)	62.5	(4.42)	66.3	(4.78)	62.6	(4.63)
Norway	43.1	(4.50)	41.1	(4.59)	37.3	(4.03)	53.1	(4.85)
Poland	51.7	(4.38)	35.8	(4.18)	46.5	(4.57)	54.4	(4.56)
TALIS Average	34.2	(0.76)	43.2	(0.83)	40.8	(0.83)	49.7	(0.84)

Source: OECD (2009a, Table 2.5)

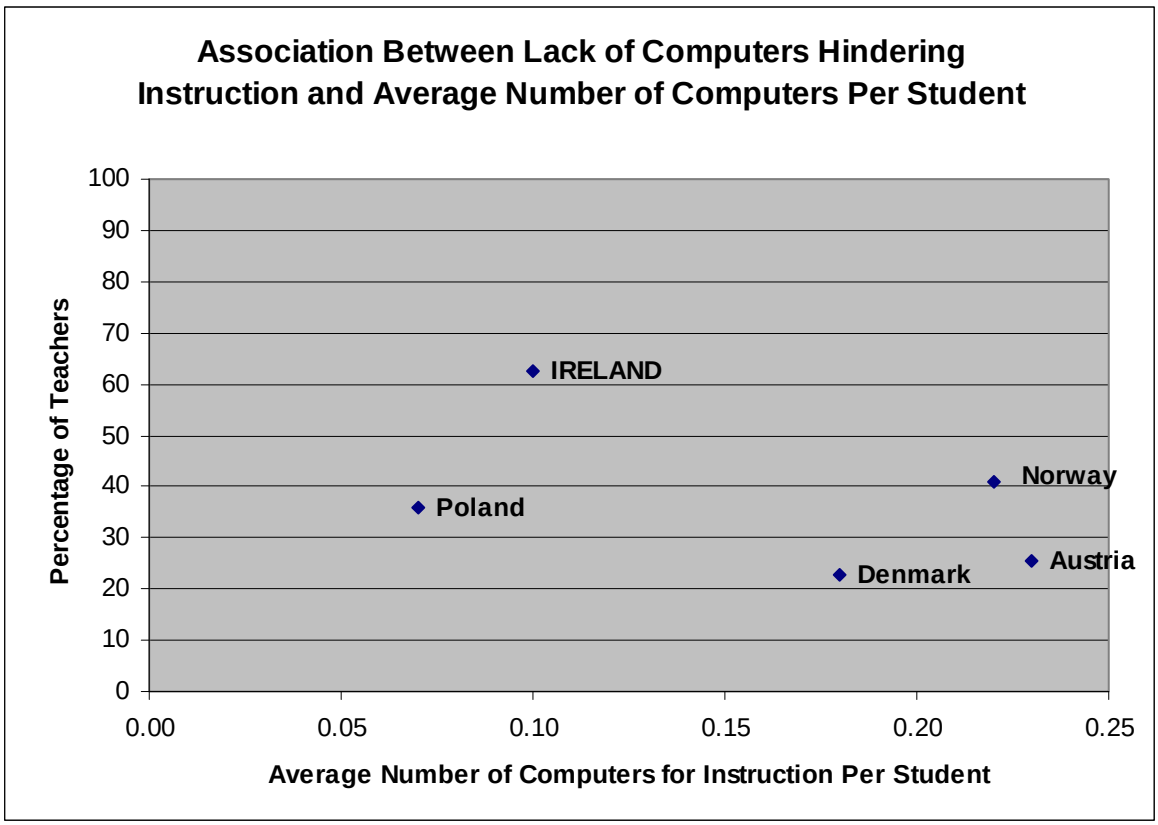
Excluding Belgium (as only the Flemish region participated in TALIS whereas both the Flemish and French regions participated in PISA), Figure 2.7 shows that there is a tendency for a lower percentage of teachers to work in schools where the principal indicates that a shortage of computers hinders instruction, as the number of computers per student available for instruction increases. However, the relationship is not perfectly linear, which suggests that there may be cross-cultural differences in interpreting the impact of a shortage of resources on instruction. This in turn may mean that caution is necessary in making cross-country comparisons of the levels of resource shortages in schools.

Table 2.11. Average Number of Computers for Instruction Per Student in PISA 2006 – Ireland and Comparison Countries

	Mean	(SE)
Austria	0.23	(0.01)
Belgium (French & Flemish)	0.14	(0.01)
Denmark	0.18	(0.01)
Ireland	0.10	(0.00)
Norway	0.22	(0.01)
Poland	0.07	(0.00)
OECD average	0.15	(0.00)

Source: OECD (2007), Table 5.15

Figure 2.7. Association Between the Percentages of Teachers in Schools Where the Principal Considers a Lack of Computers to Hinder Instruction and the Average Number of Computers for Instruction Per Student



Source: OECD (2007), Table 5.15; OECD (2009a), Table 2.5

Further breakdown is provided in Table 2.12 on the extent to which resource shortages in Ireland are believed to hinder instruction. Just under 5% of teachers in Ireland work in schools where a lack of qualified teachers is reported to hinder instruction 'a lot'. However, almost half of teachers in Ireland work in schools where the principal reported that a shortage of laboratory technicians hinders instruction a lot. This contrasts with the situation in Belgium (Fl.) (not shown) where only 0.30% (SE 0.30) of teachers work in schools where a shortage of laboratory technicians is reported to hinder instruction a lot.

Although about one-half of teachers in Ireland work in schools where a lack of instructional personnel is reported to hinder instruction to some extent, only about one-in-eight teachers work in schools where this is reported to hinder instruction a lot.

Almost one in ten teachers in Ireland work in schools where a shortage of instructional materials is believed to hinder instruction a lot. This contrasts with Austria (not shown) where just 1.02% (SE 0.73) of teachers work in such schools.

Shortage of computers, library materials and other equipment are commonly reported in Ireland as hindering instruction a lot. It is interesting to note that just 3.28% (SE 1.39) of teachers in Belgium (Fl.) work in schools where a lack of computers hinders instruction a lot compared to 31% in Ireland.

Table 2.12. Percentages of Teachers in Schools in Ireland where the Principal Considered Specified Resource Issues to Hinder Instruction, Broken Down by 'To Some Extent' and 'A Lot'

	To Some Extent		A Lot	
	%	(SE)	%	(SE)
A lack of qualified teachers	33.4	(4.86)	4.9	(2.17)
A lack of laboratory technicians	33.5	(4.57)	49.1	(5.09)
A lack of instructional personnel	51.1	(5.20)	12.5	(3.37)
A lack of other support personnel	37.2	(4.74)	25.5	(4.59)
Shortage or inadequacy of instructional materials	25.1	(4.20)	9.1	(2.56)
Shortage or inadequacy of computers for instruction	31.7	(4.35)	30.8	(4.56)
Shortage or inadequacy of other equipment	39.4	(4.95)	23.2	(3.93)
Shortage or inadequacy of library materials	36.8	(4.71)	29.4	(4.56)

From the individual items dealing with shortage of resources, two composite indices were computed: an index of lack of personnel and an index of shortage of materials. Overall mean scores show that on both, Ireland is above the corresponding TALIS averages (Table 2.13). Positive values in Table 2.13 indicate that lack of personnel or materials is a greater problem in that country than on average across TALIS countries; negative values indicate that lack of materials or personnel are less of a problem.

In Austria, a lack of personnel is perceived to be a problem while shortage of materials is not, compared to the corresponding TALIS averages. In Poland, lack of personnel is believed to be much less of a problem than on average across TALIS countries. On both indices Belgium (Fl.) and Denmark are below the TALIS average which indicates that, in relative terms, personnel and material shortages are perceived to be less of a problem in these two countries.

School Autonomy

Principals were asked to indicate the level of responsibility held at school level for various tasks. The tasks fall in to four main groups which are described by four separate indices of school autonomy: recruiting teachers and determining salaries; formulating and allocating the school budget; student policy and textbook choice; and curriculum. The index 'Hiring teachers and determining salaries' was constructed from questionnaire items on selecting teachers for hire, dismissing teachers, establishing teachers' starting salaries and determining teachers' salary increases. 'Formulating and allocating the school budget' comprises items on formulating the budget and deciding on budget allocations within the school. 'Student policy and textbook choice' comprises items on establishing students disciplinary policies, establishing student assessment policies, approving students for admission to the school and choosing which textbooks are used. The 'curriculum' index was calculated from items on determining course content and deciding which courses are offered.

Table 2.13. Index of Lack of Personnel and Shortage of Materials for Ireland and Comparison Countries Based on Percentage of Principals who Consider a Lack of Personnel and Shortage of Resources to Hinder Instruction 'A Lot' or 'to Some Extent'

	Index of lack of personnel (teachers, technicians, instructional support personnel, other support personnel)		Index of shortage of materials (instructional materials, computers, equipment, library materials)	
	Mean	(SE)	Mean	(SE)
Austria	0.49	(0.06)	-0.57	(0.06)
Belgium (Fl.)	-0.40	(0.07)	-0.50	(0.08)
Denmark	-0.71	(0.06)	-0.46	(0.10)
Ireland	0.59	(0.09)	0.38	(0.11)
Norway	-0.03	(0.09)	0.06	(0.08)
Poland	-0.78	(0.06)	0.10	(0.08)
TALIS Average[1]	0.00	(0.02)	-0.02	(0.02)

[1] Both scales were originally scaled to have an average of zero across countries. A slight difference is found between zero and the reported TALIS average due to how missing data were treated in computing the TALIS average.
Source: OECD (2009a, Table 2.5a, web only)

Table 2.14 shows that in Ireland, a similar amount of responsibility is held at school level for recruiting teachers, dismissing teachers and determining salaries as on average across TALIS countries. However, this is lower than in Denmark, Poland and Norway, and may be due to the fact that schools in Ireland have little authority in determining salaries. Principals in Ireland reported greater levels of responsibility at school level for formulating and allocating the school budget, for student policy and textbooks and for the curriculum, than on average across TALIS countries. It would appear that relatively little responsibility is held at school level in Austria for recruiting teachers and determining salaries or for formulating and allocating the school budget. However, significant authority is held at school level in that country for formulating the curriculum, i.e., courses offered and course content.

Table 2.14. Indices of Autonomy Based on School Principals who Reported that Considerable Responsibility for the Following Tasks is Held at School Level

	Recruiting teachers, determining salaries		Formulating and allocating the school budget		Student policy and textbook choice		Curriculum (courses offered and course content)	
	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)
Austria	-0.98	(0.03)	-0.49	(0.05)	0.12	(0.05)	0.57	(0.04)
Belgium (Fl.)	0.09	(0.03)	0.14	(0.07)	0.34	(0.04)	-0.02	(0.06)
Denmark	0.48	(0.05)	0.23	(0.07)	0.04	(0.09)	0.72	(0.05)
Ireland	-0.08	(0.04)	0.06	(0.07)	0.50	(0.04)	0.45	(0.05)
Norway	1.42	(0.04)	0.75	(0.00)	-0.09	(0.08)	0.03	(0.06)
Poland	0.70	(0.05)	0.66	(0.02)	0.11	(0.07)	-0.26	(0.07)
TALIS Average	-0.04	(0.01)	-0.03	(0.02)	-0.03	(0.02)	-0.02	(0.01)

Source: OECD (2009a, Table 2.7a, web only)

School Climate

Principals were asked to indicate the extent to which various teacher and student factors hinder instruction in the school. These relate to issues of school climate rather than the resource issues discussed above[10]. Table 2.15 shows that fewer teachers in Ireland, compared to the TALIS average, teach in schools where the principal reported that teachers arriving late at school hinders instruction. However, a greater percentage of teachers in Ireland, than on average across TALIS countries, work in schools where the principal reported that teacher absenteeism and a lack of pedagogical preparation hinder instruction.

Further breakdown of the extent of these problems is provided in Table 2.16 where it can be seen that although Ireland may have above average percentages of teachers working in schools where instruction is believed to be hindered by absenteeism or a lack of preparation, the percentage of teachers in Ireland in schools where these are reported to hinder instruction 'a lot' is very low. Only 1% of teachers work in schools where the principal reported that teachers arriving late hindered instruction a lot, and just 6% in schools where teacher absenteeism is deemed to hinder instruction a lot. It is important to note that absenteeism occurs for many reasons, and may include school-related activities such as field-trips and attendance at inservice (*cf*. the percentage of teachers receiving scheduled time to participate in professional development activities, Chapter 3). Under 3% of teachers work in schools where the principal reported that a lack of pedagogical preparation hindered instruction a lot.

Table 2.15. Percentages of Teachers in Schools whose School Principal Considered Specified Teacher Behaviours to Hinder Instruction 'A Lot' or 'To Some Extent'

	Teachers arriving late at school		Teacher absenteeism		Lack of pedagogical preparation	
	%	(SE)	%	(SE)	%	(SE)
Austria	8.2	(1.49)	22.7	(2.54)	15.9	(2.39)
Belgium (Fl.)	4.2	(1.53)	3.7	(1.33)	8.8	(2.10)
Denmark	13.8	(3.76)	11.1	(3.52)	11.0	(3.30)
Ireland	12.9	(3.41)	43.3	(4.87)	30.8	(4.86)
Norway	8.7	(2.63)	39.5	(4.59)	10.9	(3.09)
Poland	7.4	(2.75)	43.7	(4.14)	2.4	(1.10)
TALIS Average	15.1	(0.61)	25.8	(0.68)	24.1	(0.69)

Source: OECD (2009a, Table 2.8)

[10] School climate from the teachers' perspective is examined in Chapter 4.

Table 2.16. Percentages of Teachers in Schools in Ireland where the School Principal Considered Teacher Behaviours to Hinder Instruction, split by 'A Lot' and 'To Some Extent'

	To Some Extent		A Lot	
	%	(SE)	%	(SE)
Teachers arriving late at school	11.9	(3.35)	1.0	(0.72)
Teacher absenteeism	37.1	(5.26)	6.2	(2.42)
Lack of pedagogical preparation	28.1	(4.93)	2.7	(1.57)

Principals were also asked to report on the extent to which various student factors hindered instruction (Tables 2.17a, 2.17b, 2.17c). The main problems in Ireland appear to be student absenteeism, students arriving late for school and classroom disturbances.

Over 70% of teachers in Ireland work in schools where student absenteeism is deemed to hinder instruction a lot or to some extent. Student absenteeism appears to be a greater problem in Ireland than in the comparison countries, apart from Poland (63%).

Over half of teachers in Ireland work in schools where students arriving late or classroom disturbances are believed to hinder instruction. Students arriving late is reported as a problem in schools in which 58% of teachers in Ireland work – a greater percentage than in any of the comparison countries.

Classroom disturbances are a problem in each of the comparison countries, affecting at least half of teachers in each country. In Poland, almost 70% of teachers work in schools where classroom disturbances are reported as hindering instruction 'a lot' or 'to some extent'.

Cheating is not reported as a widespread problem in Ireland, unlike in Poland where over 40% of teachers work in schools where cheating is reported as a problem.

Table 2.17a. Percentages of Teachers in Schools (Ireland, Comparison Countries and TALIS Country Average) where the Principal Considered Specified Student Behaviours to Hinder Instruction 'A Lot' or 'To Some Extent' (Arriving Late, Absenteeism, Classroom Disturbances, Cheating)

	Arriving late at school		Absenteeism		Classroom disturbances		Cheating	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	19.1	(2.55)	25.2	(2.95)	61.4	(3.24)	11.1	(2.11)
Belgium (Fl.)	28.1	(3.80)	19.7	(2.57)	50.8	(5.01)	5.6	(1.75)
Denmark	37.0	(5.23)	26.8	(4.45)	57.3	(3.93)	6.8	(2.06)
Ireland	57.7	(4.81)	70.9	(4.35)	53.6	(4.47)	2.9	(1.29)
Norway	44.5	(4.33)	24.7	(3.91)	65.3	(4.41)	2.2	(1.31)
Poland	44.1	(4.12)	62.8	(3.93)	69.0	(3.72)	42.3	(4.48)
TALIS average	39.4	(0.80)	45.8	(0.77)	60.2	(0.79)	20.9	(0.66)

Source: OECD (2009a, Table 2.8a)

Although one fifth of Irish teachers work in schools where profanity or swearing is reported to hinder instruction (Table 2.17b), this is below the TALIS average of 37%. Similarly, for vandalism, theft, and physical injury to other students, Ireland is below the corresponding TALIS averages. Intimidation or verbal abuse of other students is reported as a problem in schools where about one third of Irish teachers work, while intimidation or verbal abuse of teachers is believed to hinder instruction in schools where under a fifth of Irish teachers teach (Table 2.17c). The 15% of teachers in Ireland in schools where alcohol and drug use or possession by students is deemed to hinder instruction is above the TALIS average of 11%.

Table 2.17b. Percentages of Teachers in Schools (Ireland, Comparison Countries and TALIS Country Average) where the Principal Considered Specified Student Behaviours to Hinder Instruction 'A Lot' or 'To Some Extent' (Profanity/Swearing, Vandalism and Theft)

	Profanity/ Swearing		Vandalism		Theft	
	%	(SE)	%	(SE)	%	(SE)
Austria	44.6	(3.03)	30.8	(2.96)	11.5	(2.11)
Belgium (Fl.)	4.8	(1.68)	13.0	(2.81)	7.7	(1.98)
Denmark	42.1	(4.44)	13.8	(3.83)	9.4	(3.27)
Ireland	21.6	(3.83)	10.6	(3.08)	4.7	(1.85)
Norway	33.9	(4.47)	22.3	(3.79)	9.5	(2.58)
Poland	60.3	(4.11)	37.4	(4.18)	12.1	(2.70)
TALIS average	36.5	(0.74)	27.1	(0.72)	15.3	(0.59)

Source: OECD (2009a, Table 2.8a)

Table 2.17c. Percentages of Teachers in Schools (Ireland, Comparison Countries and TALIS Country Average) where the Principal considered Student Related Factors to Hinder Instruction 'A Lot' or 'To Some Extent' (Intimidation of Other Students, Physical Injury to Other Students, Intimidation of Teachers or Staff, Use of Drugs or Alcohol)

	Intimidation or verbal abuse of other students		Physical injury to other students		Intimidation of verbal abuse of teachers or staff		Use/ possession of drugs and / or alcohol	
	%	(SE)	%	(SE)	%	(SE)	%	SE
Austria	36.3	(3.22)	9.0	(1.87)	8.8	(1.67)	2.3	(0.99)
Belgium (Fl.)	39.3	(4.72)	3.1	(1.17)	12.2	(2.03)	7.5	(1.93)
Denmark	28.8	(4.66)	11.7	(3.57)	13.7	(3.31)	8.8	(3.06)
Ireland	36.6	(4.71)	4.3	(2.08)	17.9	(3.62)	15.0	(3.95)
Norway	23.3	(4.03)	2.7	(1.56)	10.2	(2.68)	1.8	(1.30)
Poland	29.4	(4.26)	25.3	(3.53)	5.9	(1.98)	5.1	(1.91)
TALIS average	34.6	(0.79)	15.9	(0.58)	16.8	(0.61)	10.7	(0.55)

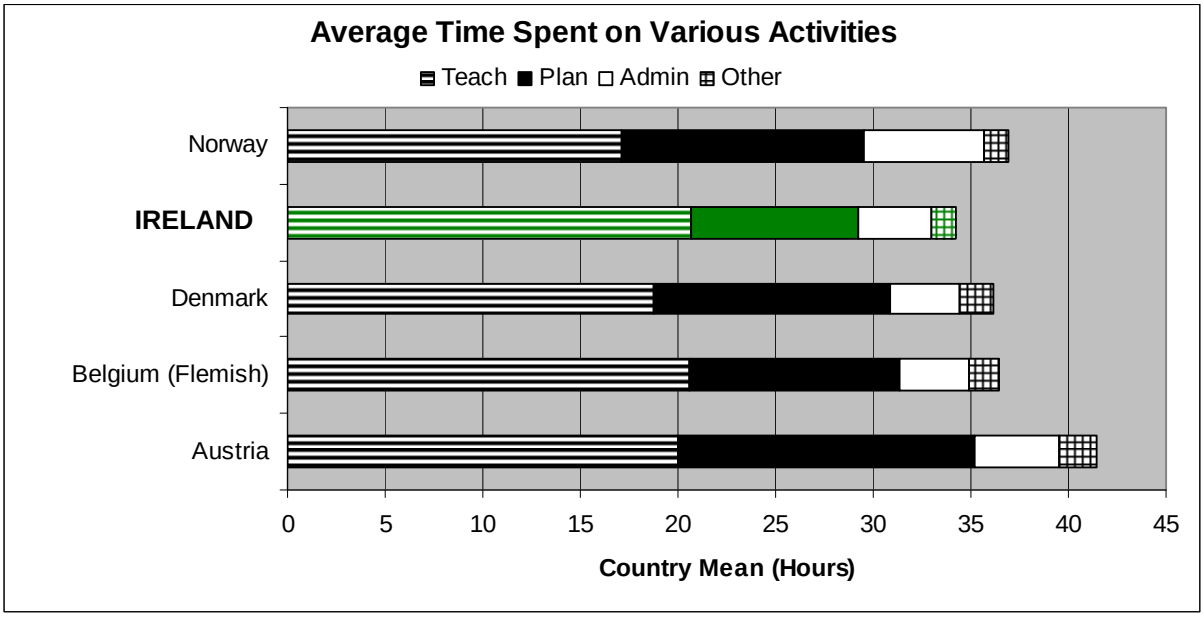
Source: OECD (2009a, Table 2.8a)

Time Use

Teachers were asked to report the length of time spent on various aspects of their work in a typical school week. Teachers included in this analysis are those who work full-time in one school only. Poland is excluded from this analysis, as the question on time use may have been misinterpreted by some teachers in that country.

In Ireland, teachers report spending almost 21 hours on average per week on teaching (sd 3.26), 8.5 hours on planning (sd 4.93), almost 4 hours on administration (sd 4.18) and just over 1 hour (sd 2.80) on other activities[11]. Teachers in Austria and Belgium (Fl.) also teach for about 20 hours per week, whereas in Denmark and Norway, average teaching time is slightly less. The amount of time spent on planning in Ireland is lower than in the comparison countries. The amount of time spent on administration in Ireland is similar to that in Belgium (Fl.) and Denmark. Teachers in Norway report spending more time on administration than teachers in any of the other comparison countries. Teachers in all comparison countries report spending under two hours on other unspecified activities. Teachers' time use is illustrated in Figure 2.8 (see Table A2.5, Appendix A2).

Figure 2.8. Average Hours per Week Spent on Teaching, Planning, Administration, Other Activities and in Total for Teachers – Ireland and Comparison Countries[1]



[1]Includes only teachers working full-time and in one school only

It is interesting to contrast teachers' self-reports from TALIS on the length of time spent teaching with the number of teaching hours per year set by policy or in agreements with Teacher Unions. Table 2.18 presents data from 2007 (most recent available) taken from the OECD's *Education at a Glance* (EAG, OECD, 2009b, Table D4.1) on the number

[11] Teaching time in Ireland is agreed with Teacher Unions. There are no regulations on other aspects of teachers' work; thus time spent on school premises may vary and teachers may engage in activities such as planning or administration, either on or off the school premises, during or after school hours.

of days of instruction at lower secondary education and net teaching time in hours over the school year. Net teaching time in Austria is an average of teaching time across different school types, while teaching time in Denmark is estimated based on research findings. In Belgium (Fl.), hours of teaching are set by the government and in Ireland and Norway, through agreements with the Teacher Unions.

From the EAG data on teachers' net teaching time over the school year and the number of days of instruction in each country, weekly teaching hours were calculated, by assuming a five-day working week in each country. This was necessary in order to compare the OECD data with teachers' reports in TALIS which asked teachers about teaching hours per week. Note that TALIS took place in 2008 so the EAG data, based on information obtained in 2007, may not be directly comparable.

Table 2.18. Number of Teaching Days, Net Teaching Time in Hours, and Weekly Teaching Hours

	Number of days of instruction – Lower secondary education[1]	Teachers' net teaching time in hours over the school year[1]	Weekly teaching hours (assuming a five day week)[2]	TALIS – Mean teaching hours per week	
				Mean	(SE)
Austria[3]	180	607	16.9	20.0	(0.07)
Belgium (Fl.)[4]	180	691	19.2	20.5	(0.11)
Denmark[5]	200	648	16.2	18.8	(0.19)
Ireland[6]	167	735	22.0	20.7	(0.08)
Norway[7]	190	654	17.2	17.1	(0.14)

[1]Source OECD (2009b, Table D4.1).
[2]Computed for this analysis as: ((Teaching time in hours over school year/Days of instruction) * 5).
[3]The number of teaching hours is defined legally. However, the legal frameworks for teachers in the compulsory school system and for teachers in the medium and advanced schools are different. A weighted average is used, see http://www.oecd.org/dataoecd/34/57/43618481.pdf, p.65.
[4]Hours of teaching are formally set. The government defines the minimum and maximum number of teaching periods (of 50 minutes each) per week at each level of education. At lower secondary, teaching time consists of a minimum of 22 and a maximum of 23 lessons per week. Teaching time in minutes is calculate as the (maximum lesson hours (19.2 * 60 minutes) * (37 teaching weeks – 1.0 weeks of festivities)) (http://www.oecd.org/dataoecd/34/57/43618481.pdf, p.66).
[5]The number of teaching hours are estimated, see country note for Denmark (http://www.oecd.org/dataoecd/34/57/43618481.pdf, p.67)
[6]Post-primary schools are open for 179 days per annum, including the period of the state examinations which lasts for 12 days. Thus, the number of days of instruction given by the OECD is 167. In post-primary education, 22 per hours per week (maximum) are required.
[7]Defined in a centralized agreement between municipalities and teacher unions but there may be local variations based on local agreements. Norwegian law regulates the pupils' school year to 190 days. Teachers' scheduled time varies depending on subjects taught. (http://www.oecd.org/dataoecd/34/57/43618481.pdf, pp.68-69)

In Austria, Belgium (Fl.) and Denmark, the mean teaching hours found in TALIS exceed the weekly teaching hours estimate computed from the *Education at a Glance* data. In Ireland, teachers in TALIS reported teaching for slightly less time than the hours set out in agreements. This is likely due to the fact that approximately half of the participating teachers in Ireland were Deputy Principals, Assistant Principals, Special Duties Teachers

or Teachers with Special Functions Allowance and a reduced teaching commitment is a feature of some of these positions. In Norway, the mean teaching time reported by teachers is the same as that set out in agreements.

Teachers in Ireland were asked an additional question regarding time spent on project work, sport and other extra curricular activities. They were asked to estimate the number of hours spent, in a typical school week, on project work that is embedded in the curriculum; on project work conducted outside the 'official' school day (e.g. Young Scientist); on supervision or preparation of sports teams outside the official school day; and on other extra curricular activities completed outside school time[12].

Over half of teachers reported spending at least one hour in a typical week on curriculum project work, one-quarter spend time on project work outside the curriculum, approximately one-third reported spending time on sport and just over one-third reported spending time on other extra-curricular activities (see Table A2.6, Appendix A). Other extra-curricular activities mentioned most often were theatre shows and musicals; school tours; career information for students and parents; supervised study; and debating teams.

The average length of time spent on these activities is presented in Table 2.19. Averages across all teachers, as well as the average for teachers who reported spending time on the activity, are given in Table 2.19.

Among teachers who report doing project work embedded in the curriculum, the average length of time spent per week on such activities is 3.7 hours. Teachers who carry out project work outside the official school day report spending 2.7 hours on this activity. On average, teachers who prepare sports teams spend 3.2 hours per week, while teachers who engage in other extra-curricular activities report spending on average 3.1 hours in a typical school week.

The finding that a quarter of teachers engage in Project Work outside the school day while approximately one third are involved with sports teams or other extra-curricular activities (Table A2.6), and the fact that teachers spend on average about 3 hours per week on these activities (Table 2.19), shows a significant voluntary contribution on the part of teachers. Coolahan (2003) also acknowledges the tradition of teachers devoting a good deal of time to games, debates, and musical events, on a voluntary basis, or for limited financial reward, but suggests that representatives of school management and principals' associations have noticed the tradition changing.

Teachers in Ireland were asked about their involvement in student pastoral care or student counselling. The majority of teachers in Ireland report at least some involvement in

[12] An examination of frequencies of responses for each of these showed the majority of teachers reported less than 22 hours per week on each activity. However, responses of 30, 60 and 90 were found more frequently than expected, together accounting for approximately 1.5% of responses. Although teachers had been asked to report hours per week, it was believed that in these cases, minutes were recorded rather than hours. Thus, 30 and 60 were recoded to 1 and 90 recoded to 2. For the purposes of calculating mean length of time spent on each of the activities, a cap of 22 hours was then applied to the four national items on time use. For calculating the percentage of teachers who engage in the activities, no such cap was applied and any teacher reporting any length of time was included in the calculation.

these activities (Table 2.20). Over two thirds of teachers provide counselling or pastoral care at least once per year.

Table 2.19 Average Length of Time Spent by Teachers in Ireland on Project Work, Sport and Extra-Curricular Activities in a Typical School Week

	Avg. hours across all teachers		Avg. hours across teachers who reported spending some time on the activity	
	Mean	(SE)	Mean	(SE)
Project Work embedded in the curriculum (i.e., covered during school time) (e.g. Exchange activities, CSPE projects)	2.1	(0.08)	3.7	(0.14)
Project Work conducted outside the 'official' school day (e.g. Young Scientist)	0.7	(0.05)	2.7	(0.15)
Supervision / Preparation of sports teams outside the official school day	1.0	(0.06)	3.2	(0.14)
Other extra-curricular activities completed outside of school time	1.1	(0.06)	3.1	(0.16)

Table 2.20 Percentages of Lower Secondary Teachers Involved in Student Pastoral Care / Counselling with Varying Levels of Frequency – Ireland

	%	(SE)
Less than once per year (or never)	31.1	(1.22)
1 - 4 times per year	23.6	(1.15)
Monthly or Weekly	45.3	(1.38)

Teachers in Ireland were also asked about how often they meet parents (Table 2.21). Almost half of teachers report meeting parents once per year and a further 45% report meeting parents three or four times per year. Fewer than 2% of teachers report meeting parents less than once per year or never. About 6% of teachers indicate that they meet parents on a weekly or monthly basis.

Table 2.21 Percentages of Lower Secondary Teachers Who Report Meeting Parents with Varying Levels of Frequency – Ireland

	%	(SE)
Less than once per year (or never)	1.6	(0.30)
Once per year	47.4	(1.51)
Three – four times per year	45.3	(1.47)
Monthly or Weekly	5.8	(0.72)

Conclusion

This chapter presented the teacher demographic and background information gathered in TALIS and outlined some of the characteristics of schools participating in TALIS in Ireland and comparison countries.

On average across TALIS countries, 70% of lower secondary teachers are found to be female. The percentage in Ireland is very close to the TALIS average. Concerns have been raised previously about the gender imbalance in the teaching force (OECD, 2005; see also, Skelton, 2007), positing that it leads to a lack of role models for boys and could relate to the academic underachievement among boys. However, attributing boys' underachievement to the scarcity of male teachers is likely overly simplistic; for example, it neglects underachievement among girls (Jones & Myhill, 2004) and overlooks the effectiveness of learning styles employed by boys and girls (see e.g., Younger, Warrington & Williams, 1999). Drudy (2008, p.319) contends that:

> …there is little support in the research for any contention that boys' performance would necessarily improve with male teachers. In addition, evidence from several countries has raised serious questions about the validity of the male role model thesis. Rather, research to date suggests that the policy direction should be towards attracting high quality people into the profession irrespective of whether male or female.

The comparatively low percentage of teachers in Ireland with permanent contracts was highlighted in this chapter; under three-quarters of teachers in Ireland are permanently employed compared to a TALIS country average of 85%. This issue emerges as significant in Chapter 7 when modelling classroom disciplinary climate. In addition, it was noted in Chapter 2 that younger teachers in Ireland are much less likely to be permanently employed than older teachers. It is likely that this uncertainty adds to the difficulties of beginning teachers in settling in to the school environment.

Greater percentages of teachers in Ireland, than on average across TALIS countries, work in schools where the principal reported that a lack of laboratory technicians, a lack of instructional personnel and a lack of other support personnel hinder instruction a lot or to some extent. Shortages of material resources such as computers for instruction, library materials and other equipment are also deemed to hinder instruction to a greater extent in Ireland than on average across TALIS countries. However, it is worth noting that although TALIS is designed to permit cross-country comparisons, cultural influences on the meaning of responses cannot be ignored. An analysis of the number of computers for instruction per student in Ireland and comparison countries showed that there is not a direct linear relationship between the average number of computers per student in a country and the proportion of teachers working in schools where the principal reported that a shortage of computers hinders instruction 'a lot' or 'to some extent'. It is likely that what constitutes a shortage varies across countries and thus, it may be prudent to exercise caution when interpreting differences between countries in the extent to which resource shortages are deemed to hinder instruction.

Principal teachers in TALIS were also asked about the extent to which various teacher and student behaviours hinder instruction. Although comparatively larger percentages of teachers in Ireland, than on average across TALIS countries, work in schools where the principal reported that teacher absenteeism and teachers' lack of pedagogical preparation hinder instruction, the percentages of teachers in schools in Ireland where these are deemed to hinder instruction a lot are low. Although issues such as students arriving late at school and student absenteeism are deemed to impact on instruction in schools where large proportions of Irish teachers work, more serious issues such as vandalism, theft and physical injury to other students appear to be much less widespread in Ireland. Issues of classroom disciplinary climate as reported by teachers are examined in Chapters 4 and 7.

3. Professional Development of Teachers

This chapter looks at the professional development undertaken by teachers in the 18 months prior to the TALIS survey. Professional development is defined as 'activities that develop an individual's skills, knowledge, expertise and other characteristics as a teacher' (OECD, 2009a, p.49). Formal or structured development may take the form of courses and workshops, education conferences and seminars, qualification programmes, observation visits to schools, participation in networks of teachers, individual or collaborative research, mentoring and/or peer observation, and coaching. Reading professional literature, or engaging in informal dialogue with peers represent less formal professional development activities.

Teachers in TALIS were asked about their level of participation in professional development activities; types of activity undertaken; financial support and time received for attending development activities; the impact of professional development; areas in which further development is required; and barriers to participating in more professional development. Each of these areas is discussed in this chapter.

Principals were asked about induction and mentoring programmes in their schools. In Ireland, they were also asked about the number of professional development days they completed which were intended to prepare or support them in their role as principal. These data also reported on in this chapter.

Given the self-reporting nature of the data, caution is advised in interpreting results (OECD, 2009a). It is possible that cultural differences may influence the reporting of development need. Similarly, the perceived impact of professional development may be influenced by teacher beliefs.

Level and Intensity of Participation in Professional Development

This section examines the level and intensity of participation in professional development, where the level of participation corresponds to the percentage of teachers participating in at least some professional development, and intensity is considered to be the average number of professional development days undertaken per teacher in the 18 months prior to TALIS. The average number of professional development days is reported both across all teachers in the sample and across those who undertook some professional development.

As it is harder to quantify informal activities such as reading professional literature and engaging in informal dialogue in terms of days, these are not included in the analyses in this section. Thus, Tables 3.1, 3.2 and 3.3 refer only to structured development activities.

Of the comparison countries, Austria has the highest percentage of teachers participating in professional development (97%) and a relatively high average number of professional development days per teacher (10.5) (Table 3.1). The percentage of teachers

in Poland (90%), Belgium (90%) and Ireland (90%) participating in professional development is lower than in Austria, but about the same as the TALIS average (89%). Denmark has a comparatively lower percentage of teachers participating in professional development (76%). Although the participation rate in Ireland is high, it is necessary to emphasise that approximately one in ten teachers did not participate in any professional development activities during the survey period and this may be cause for concern.

The average number of days of professional development in Ireland (5.6) is the lowest of all TALIS countries and is about six times lower than the highest average number of days found in TALIS (Mexico: 34.0, not shown). Across comparison countries, there is wide variation in the average number of days of professional development undertaken by teachers. Poland (26.1) is above the TALIS country average (15.3), while the other comparison countries are below the TALIS average. Average days of professional development in Belgium (Fl.) (8.0), Denmark (9.8) and Norway (9.2) are comparatively low by TALIS standards.

Given the high participation rate in professional development in Ireland, a relatively small difference exists between the average days of professional development across all teachers (5.6) and the average across only those teachers who received development (6.2). A somewhat greater difference between the two measures is found in Denmark (9.8 and 12.9, respectively), where the participation rate in professional development is lower than in Ireland.

A greater percentage of professional development days in Ireland (41%) are compulsory than in Austria (31%), Belgium (Fl.) (34%) and Denmark (35%). The average percentage of compulsory professional development days in Ireland is very similar to that in Poland (41%), but below that in Norway (56%) and the TALIS country average (51%).

Further evidence of the comparatively low number of professional days undertaken by teachers in Ireland is seen from the fact that almost 60% of teachers in Ireland reported between 1 and 5 days of professional development, which is over twice the TALIS average (Table 3.2). Conversely, under 3% of teachers in Ireland indicated having received 21 or more days of professional development in the 18 months prior to TALIS, compared to a TALIS country average of almost 18%.

In Ireland, few differences emerged in terms of age, gender, or level of qualification, in the amount of professional development undertaken (OECD, 2009a, Table 3.1a). Of the comparison countries, the greatest difference between males and females is observed in Poland, with females receiving approximately 4 days of professional development more than males. However, this difference is not statistically significant.

Table 3.1. Participation Rates, Average Number of Days and Compulsory Days of Professional Development Undertaken by Teachers of Lower Secondary Education in 18 Months Prior to TALIS – Ireland, Comparison Countries and TALIS Average

	% of teachers who undertook professional development in previous 18 months		Average days professional development across all teachers		Average days professional development among those who received some		Average % of professional development days taken that were compulsory	
	%	SE	Mean	SE	Mean	SE	%	SE
Austria	96.6	(0.37)	10.5	(0.17)	10.9	(0.16)	31.4	(0.66)
Belgium (Fl.)	90.3	(0.73)	8.0	(0.38)	8.8	(0.42)	33.6	(0.95)
Denmark	75.6	(1.26)	9.8	(0.34)	12.9	(0.40)	34.6	(1.43)
Ireland	89.7	(0.78)	5.6	(0.21)	6.2	(0.21)	41.4	(0.99)
Norway	86.7	(0.87)	9.2	(0.30)	10.6	(0.34)	55.5	(1.25)
Poland	90.4	(0.67)	26.1	(1.10)	28.9	(1.20)	41.0	(1.14)
TALIS average	88.5	(0.20)	15.3	(0.14)	17.3	(0.16)	51.0	(0.25)

Source: OECD (2009a, Table 3.1)

Table 3.2. Days of Professional Development Undertaken by Teachers of Lower Secondary Education in 18 Months Prior to TALIS – Ireland, Comparison Countries and TALIS Average

	None		1 – 5 days		6 – 10 days		11 – 20 days		21 – 30 days		31 days and more	
	%	(SE)	%	SE	%	SE	%	SE	%	SE	%	SE
Austria	3.4	(0.37)	29.9	(0.81)	34.0	(0.85)	23.6	(0.72)	5.9	(0.36)	3.3	(0.28)
Belgium (Fl.)	9.7	(0.73)	54.5	(1.06)	21.1	(0.84)	8.8	(0.64)	2.6	(0.29)	3.3	(0.41)
Denmark	24.4	(1.26)	27.2	(1.32)	22.4	(1.07)	15.4	(1.47)	5.5	(0.67)	5.1	(0.52)
Ireland	10.3	(0.78)	59.6	(1.15)	21.0	(1.04)	6.2	(0.49)	1.3	(0.25)	1.5	(0.29)
Norway	13.3	(0.87)	41.1	(1.29)	25.0	(1.15)	11.7	(0.85)	4.3	(0.45)	4.6	(0.44)
Poland	9.6	(0.67)	17.7	(0.95)	22.8	(0.85)	20.0	(1.01)	9.3	(0.62)	20.6	(0.97)
TALIS average	11.5	-	27.8	-	24.5	-	18.7	-	7.5	-	10.0	-

Source: OECD (2009a, Table 3.1c, web only)

In Ireland, teachers' age is not significantly associated with the quantity of professional development undertaken. This contrasts with the situation across TALIS countries generally, whereby younger teachers receive more days of professional development than more experienced teachers. Of the comparison countries, differences are most pronounced in Poland, where teachers aged under 30 years receive on average 35.2 (SE 3.22) days of professional development versus 17.9 (SE 1.64) days for teachers aged 50 or more.

Differences in the quantity of professional development across TALIS countries in terms of school location or school management (public or private) are generally not statistically significant. In Ireland, teachers in community or comprehensive schools report

an average of 7.1 (SE 0.66) days of professional development, an average of 5.1 (SE 0.25) is found for secondary schools, and 5.7 (SE 0.34) for vocational schools. Although a statistically significant difference is found between community or comprehensive schools and secondary schools (Table 3.3), the lower limit of the confidence interval is very small, and hence the difference may be of little practical importance.

Table 3.3 Mean Score Differences in Days of Professional Development by School Type – Ireland

	Diff	(SED)	CI_AdjL	CI_AdjU
Community/Comprehensive – Secondary	2.0	(0.70)	**0.3**	**3.7**
Community/Comprehensive – Vocational	1.4	(0.74)	-0.4	3.2
Secondary – Vocational	-0.6	(0.43)	-1.6	0.5

Note: Diff = mean difference; SED = standard error of difference; CI_AdjL, CI_AdjU = Bonferroni-adjusted 95% confidence intervals. Confidence intervals for significant differences (p<= .05) are highlighted in bold.

No significant differences in average days of professional development are found between teachers in designated disadvantaged schools (mean 5.7, SE 0.38) and teachers in non-designated disadvantaged schools (mean 5.6, SE 0.28).

Principals in Ireland were asked about the number of professional development days they had completed which were intended to prepare or support them in their role as principal. Unlike teachers, they were not told to limit their responses to professional development undertaken in the 18 months prior to TALIS. The average number of days reported by principals[1] is 10.1 (SE 0.97), although variation between principals is large (sd 11.08).

Types of Professional Development

In TALIS, teachers were asked about the types of professional development which they undertook in the previous 18 months. Informal development activities, such as reading professional literature and engaging in informal dialogue, were not included above for the purposes of calculating average days of professional development or the percentages of teachers participating in development. They are, however, included in this section, which looks at the different types of development undertaken by teachers.

Of formal professional development activities (Tables 3.4a, 3.4b), attendance at courses and workshops is the activity in which most teachers in Ireland participate (86%)[2].

[1] The responses of four principals, who reported between 110 and 300 days of professional development, were excluded. Although each of these principals has more than 6 years experience working as a principal, it is unlikely that they participated in this level of professional development and may have misinterpreted the question.

[2] Percentages in this section are percentages of all teachers, not only those who undertook some professional development; e.g., of all teachers in Ireland, 85.7% reported participation in courses and workshops.

Along with Austria (92%), Belgium (Fl.) (85%) and Poland (91%), Ireland is above the TALIS average (81%) for attendance at courses and workshops.

In Ireland, Austria, Denmark and Norway between 40 and 50% of teachers report attending education conferences and seminars. Approximately twice the percentage of teachers in Poland (64%) as in Belgium (Fl.) (33%) report attending education conferences and seminars.

The percentage of teachers undertaking qualification programmes in Ireland (11%) is lower than the corresponding TALIS average (25%) and lower than the percentages in each of the comparison countries. Observation visits to other schools are also comparatively less common in Ireland (8%) than in the comparison countries and on average across TALIS countries (28%).

Approximately half of teachers in Ireland reported belonging to a professional development network compared to a quarter in Belgium (Fl.) and over a third in Austria and Norway. This may reflect engagement of Irish teachers with subject associations. Along with Ireland, Denmark (44%) and Poland (61%) are above the TALIS average (40%).

Approximately a quarter of teachers in Ireland and Austria indicated that they had participated in individual and collaborative research. About twice as many teachers in Denmark reported conducting research (52%).

In Austria, Ireland, Denmark, Belgium (Fl.) and Norway, between 18% and 22% of teachers have been involved in mentoring and peer observation. This practice appears more widespread in Poland, where 67% of teachers report involvement.

Fewer teachers in Ireland report reading professional literature or engaging in informal dialogue to improve teaching than in comparison countries or on average across TALIS countries (Table 3.4c).

Table 3.4a. Percentages of Lower Secondary Teachers Undertaking Specified Professional Development Activities (Courses, Conferences, Qualification Programmes, Observation Visits) in 18 Months Prior to TALIS – Ireland and Comparison Countries

	Courses and Workshops		Education Conferences and Seminars		Qualification Programmes		Observation Visits to Other Schools	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	91.9	(0.56)	49.2	(0.97)	19.9	(0.68)	10.3	(0.55)
Belgium (Fl.)	85.2	(0.89)	32.6	(1.33)	17.8	(0.83)	15.1	(1.06)
Denmark	81.2	(1.33)	41.6	(1.56)	15.4	(1.47)	10.4	(0.92)
Ireland	85.7	(0.88)	42.0	(1.41)	11.4	(0.67)	7.6	(0.75)
Norway	72.5	(1.40)	40.4	(1.61)	17.6	(0.71)	19.1	(1.49)
Poland	90.8	(0.77)	64.3	(1.18)	35.0	(0.95)	19.7	(0.84)
TALIS average	81.2	(0.23)	48.9	(0.32)	24.5	(0.23)	27.6	(0.26)

Source: OECD (2009a), Table 3.2

Table 3.4b. Percentages of Lower Secondary Teachers Undertaking Specified Professional Development Activities (Network, Research, Mentoring and Peer Observation) in 18 Months Prior to TALIS – Ireland and Comparison Countries

	Professional Development Network		Individual and Collaborative Research		Mentoring and Peer Observation	
	%	(SE)	%	(SE)	%	(SE)
Austria	37.6	(0.98)	25.9	(0.82)	18.4	(0.84)
Belgium (Fl.)	25.7	(1.05)	31.8	(0.87)	22.1	(0.92)
Denmark	43.5	(1.65)	52.3	(1.51)	17.5	(1.66)
Ireland	51.1	(1.20)	26.3	(1.17)	18.2	(1.12)
Norway	35.3	(1.55)	12.3	(0.72)	22.0	(1.50)
Poland	60.7	(1.43)	40.0	(1.08)	66.7	(1.40)
TALIS average	40.0	(0.28)	35.4	(0.24)	34.9	(0.30)

Source: OECD (2009a), Table 3.2

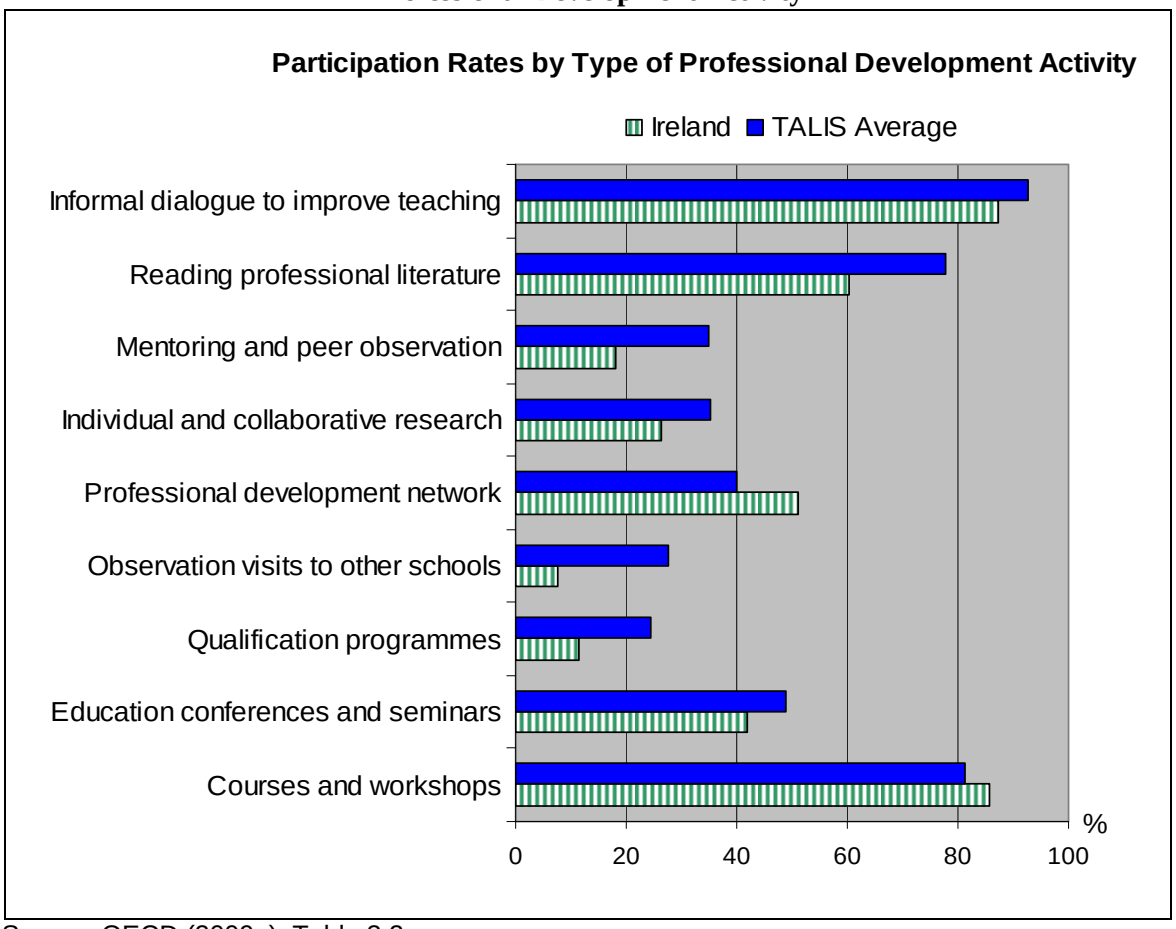
Table 3.4c. Percentages of Lower Secondary Teachers Undertaking Other Professional Development Activities in 18 Months Prior to TALIS – Ireland and Comparison Countries

	Reading Professional Literature		Informal Dialogue to Improve Teaching	
Country	%	(SE)	%	(SE)
Austria	89.4	(0.57)	91.9	(0.60)
Belgium (Fl.)	79.6	(0.98)	91.3	(0.71)
Denmark	77.3	(1.50)	90.4	(0.89)
Ireland	60.3	(0.96)	87.4	(0.81)
Norway	64.1	(1.12)	94.0	(0.57)
Poland	95.2	(0.46)	95.8	(0.36)
TALIS average	77.7	(0.23)	92.6	(0.14)

Source: OECD (2009a), Table 3.2

Figure 3.1 shows that for 7 of the 9 professional development activities, the percentage of teachers reporting involvement in Ireland is lower than the corresponding TALIS average. Observation visits to other schools, qualification programmes, and mentoring activities, are the professional development activities in which teachers in Ireland are noticeably behind the corresponding TALIS country averages.

Figure 3.1. Participation Rates in Ireland and on Average in TALIS Countries, by Type of Professional Development Activity



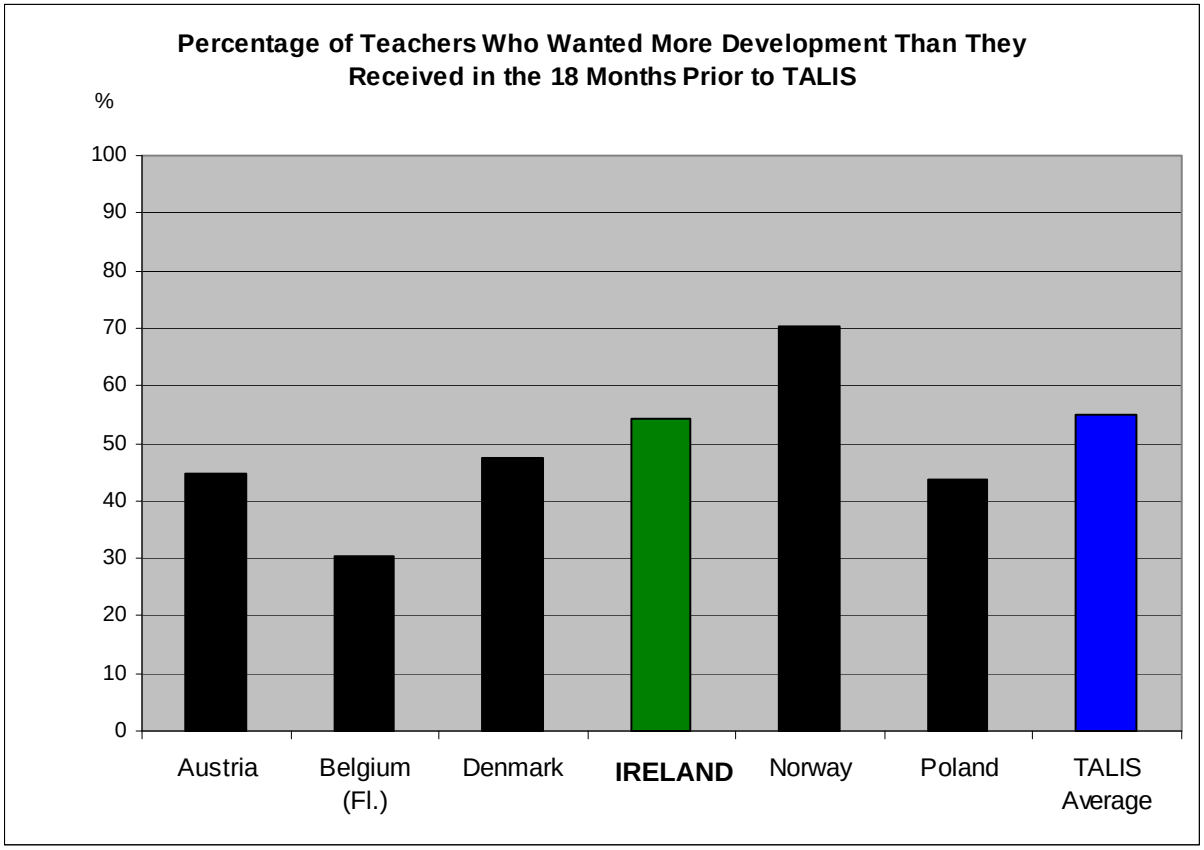
Source: OECD (2009a), Table 3.2

Unsatisfied Demand and Development Needs

Over half of teachers in Ireland would like to have undertaken more professional development than they did in the 18 months prior to TALIS, compared to between 44% and 48% of teachers in Austria, Denmark and Poland (Figure 3.2). The percentage of teachers in Belgium (Fl.) (31%), who would like to have done more professional development, is the lowest across TALIS countries, and is under half the percentage in Norway (70%).

As well as a relatively low level of unsatisfied demand, Poland has a higher than average participation rate in eight of the nine development activities (OECD, 2009a, Table 3.2). Together, these may be taken to suggest a well-developed system of professional development in Poland (OECD, 2009a). Although Belgium (Fl.) also has a high participation rate and a comparatively low level of unsatisfied demand, the average days of development across teachers is relatively low.

Figure 3.2. Percentages of Teachers Who Wanted More Development Than They Received – Ireland, Comparison Countries and TALIS Average



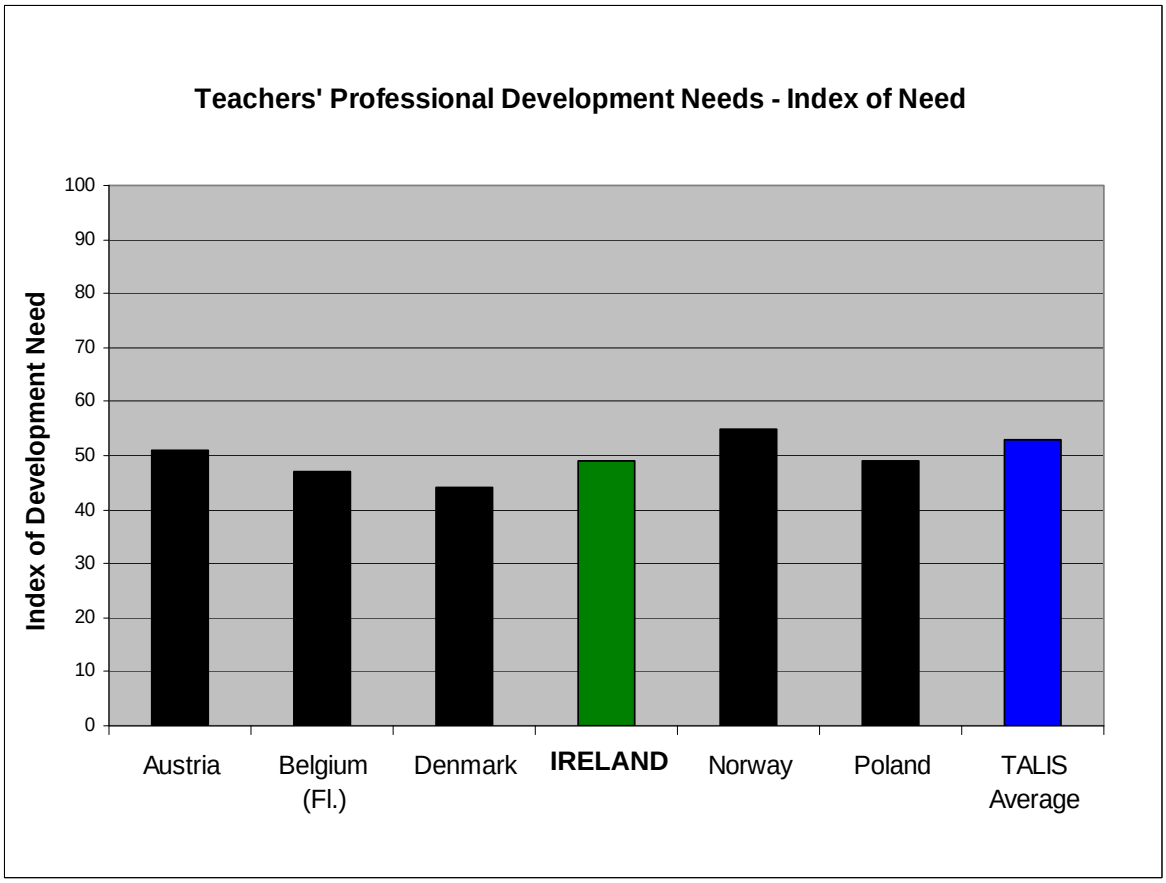
Source: OECD (2009a), Table 3.3

Figure 3.3 shows an overall index of development need compiled by assigning a score to each teacher according to the level of need reported for each of eleven aspects of his/her work (listed in Tables 3.5a to 3.5c). Reported levels of need on each aspect ranged from no reported need (0 points) to a high level of need (3 points given). Thus, the maximum possible 'need' is 33, as there were 11 areas. Each teacher's level of need was converted to a percentage of the maximum and the index in Figure 3.3 corresponds to the average percentage need of all teachers in a country. Caution is advised in interpreting the index as cultural bias may have influenced the reporting of need (OECD, 2009a).

The reported level of need in Ireland (49) is greater than that in Denmark (44), similar to that in Poland (49) and Belgium (Fl.) (47), and below the levels reported in Austria (51) and Norway (55). Among TALIS countries, Denmark has one of the lowest overall scores on this index.

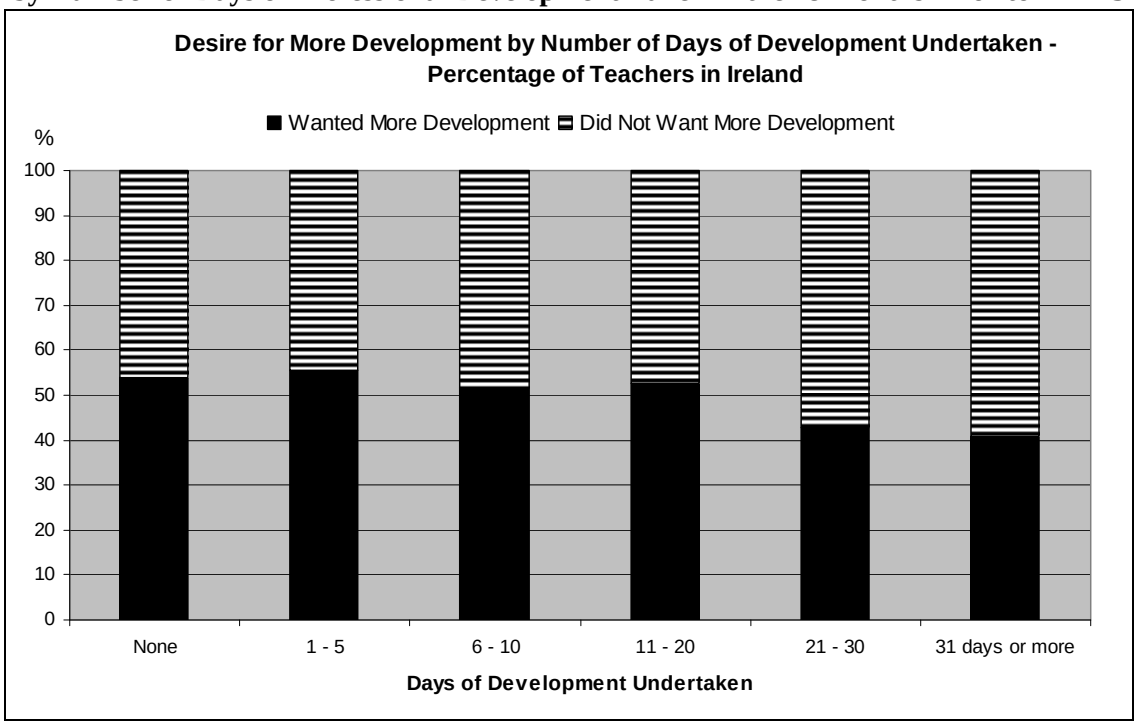
On average at country level, there is a positive relationship between the average number of professional development days engaged in and the percentage of teachers reporting that they wanted more than they had received ($R^2 = 0.22$, OECD, 2009a). However, in Ireland, over fifty percent of teachers who received 20 days or fewer of professional development reported wanting more development, compared with just over 40% of those who received 21 days development or more (see Figure 3.4).

Figure 3.3. Values of an Overall Index of Teachers' Professional Development Needs – Ireland, Comparison Countries and TALIS average



Source: OECD (2009a), Table 3.4

Figure 3.4. The Desire of Teachers in Ireland for More Professional Development Analysed by Number of Days of Professional Development Taken in the 18 Months Prior to TALIS



Areas of Development Need

Teachers in Ireland identify four main areas as those in which they have high levels of unmet professional development needs (Tables 3.5a, 3.5b, 3.5c): ICT teaching skills (34%)[3], teaching special learning needs students (38%), teaching in a multi-cultural setting (24%) and student counselling (25%). The percentage of teachers in Ireland citing each of these four areas is over twice that in Belgium (Fl.) and above the TALIS average in each case.

Although the percentages of teachers in Austria, Denmark, Norway and Poland identifying ICT teaching skills as an area of need are lower than that in Ireland, some 20 to 30% of teachers in these countries have unmet needs in this area. Indeed, the category of ICT teaching skills is the second most often identified area on average in TALIS (TALIS country average 25%), after teaching students with special learning needs (31%). Over a quarter of teachers in Austria, Denmark, Norway and Poland report wanting more development in the area of special needs education.

Teaching in a multicultural setting is less often identified as an area of need in comparison countries than in Ireland. The high level of reported need in Ireland is likely to be related to the fact that large numbers of newcomer students are a relatively recent phenomenon in Irish schools[4] and many teachers in Ireland may not have received training in this area during their initial teacher education[5].

About a quarter of teachers in Ireland report having a high level of need for development related to student counselling. This may be related to the finding that 45.3% (SE 1.38) of teachers in Ireland report providing pastoral care and/or counselling to students on a weekly or monthly basis (see Table 2.20, Chapter 2). A further 23.6% (SE 1.15) provide counselling between one and four times per year. The high percentage of teachers providing counselling at least once a year may partly explain the high level of need for professional development in this area. The percentage of teachers in Poland (25%) reporting student counselling as an area in which they have a high level of need is similar to that in Ireland. Percentages in the other comparison countries are lower.

Between 12 and 14% of teachers in Ireland identify school management and administration, and student discipline and behaviour, as areas of need. The percentage of teachers in Ireland (12%) reporting a high level of need for development in school management and administration is above the TALIS average (10%) and above the percentages in each of the comparison countries.

A need for professional development covering student discipline is less often reported by teachers in Ireland (14%) than on average in TALIS countries (21%). Of the comparison countries, student discipline is rated most often as an area of need by teachers

[3] Based on all teachers in the Irish sample

[4] A recent EU green paper (Commission of the European Communities, 2008) on the educational achievements and socioeconomic contexts of migrant students notes that, in Ireland, Italy and Spain, the percentage of students born in another country has multiplied by three or four since 2000.

[5] Smyth *et al.* (2009) found that only a third of principals at primary and post-primary level feel that pre-service education prepares teachers for working in a multicultural setting. Over 90% of principals believe that more in-service education is needed for teachers to promote inclusion in schools.

in Austria (33%) and Poland (24%). Given the high percentage of teachers working in schools across TALIS countries where the principal considers classroom disturbances to hinder instruction (60%, see Table 2.17a, Chapter 2), it is noteworthy that a greater proportion of teachers do not consider student discipline to be an area of high professional development need.

Areas in which relatively few Irish teachers indicate high levels of need are: content and performance standards, student assessment, classroom management, subject field(s) and instructional practice. In each of these areas, the percentage of teachers in Ireland reporting a high level of need is between 4 and 8%, which is about half the corresponding TALIS average, or lower.

The small percentage of teachers in Denmark reporting a high level of need in the area of classroom management is noteworthy. With just 2% of teachers identifying classroom management as an area of need, Denmark has the lowest percentage across all TALIS countries. The corresponding figure in Ireland is 6%.

Table 3.5a. Percentages of Teachers of Lower Secondary Education Indicating That They Have a 'High Level of Need' for Professional Development in Specified Areas – Ireland, Comparison Countries and TALIS Average

	Content and Performance Standards		Student Assessment Practices		Classroom Management		Subject Field	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	13.9	(0.69)	12.2	(0.53)	13.6	(0.64)	14.8	(0.59)
Belgium (Fl.)	12.0	(0.65)	15.6	(0.74)	12.1	(0.59)	17.5	(0.74)
Denmark	17.1	(1.25)	13.6	(0.97)	2.3	(0.55)	4.6	(0.54)
Ireland	6.7	(0.52)	8.2	(0.77)	6.4	(0.59)	4.1	(0.49)
Norway	12.9	(0.85)	21.9	(1.29)	7.7	(0.66)	8.6	(0.70)
Poland	11.9	(0.74)	12.8	(0.77)	17.6	(0.95)	17.0	(0.87)
TALIS average	16.0	(0.20)	15.7	(0.19)	13.3	(0.18)	17.0	(0.18)

Source: OECD (2009a), Table 3.4

Table 3.5b. Percentages of Teachers of Lower Secondary Education Indicating That They Have a 'High Level of Need' for Professional Development in Specified Areas – Ireland, Comparison Countries and TALIS Average

	Instructional Practices		ICT Teaching Skills		Teaching Special Learning Needs Students		Student Discipline and Behaviour Problems	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	18.6	(0.75)	23.8	(0.64)	30.3	(0.94)	32.6	(1.03)
Belgium (Fl.)	14.1	(0.77)	14.8	(0.72)	12.8	(0.76)	11.8	(0.71)
Denmark	4.7	(0.57)	20.1	(1.67)	24.6	(1.44)	9.8	(1.21)
Ireland	5.4	(0.60)	34.2	(1.30)	38.3	(1.32)	13.9	(0.98)
Norway	8.2	(0.61)	28.1	(1.19)	29.2	(1.04)	16.5	(0.93)
Poland	17.5	(0.75)	22.2	(0.90)	29.4	(1.28)	23.5	(0.94)
TALIS average	17.1	(0.18)	24.7	(0.23)	31.3	(0.25)	21.4	(9.7)

Source: OECD (2009a), Table 3.4

Table 3.5c. Percentages of Teachers of Lower Secondary Education Indicating That They Have a 'High Level of Need' for Professional Development in Specified Areas – Ireland, Comparison Countries and TALIS Average

	School Management and Administration		Teaching in a Multicultural Setting		Student Counselling	
	%	(SE)	%	(SE)	%	(SE)
Austria	3.9	(0.37)	10.0	(0.68)	13.1	(0.65)
Belgium (Fl.)	2.4	(0.31)	3.7	(0.46)	11.0	(0.68)
Denmark	3.9	(0.49)	7.1	(0.98)	5.5	(0.66)
Ireland	11.8	(0.94)	24.3	(1.31)	24.9	(1.33)
Norway	5.8	(0.57)	8.3	(0.75)	7.8	(0.63)
Poland	7.8	(0.57)	6.6	(0.58)	25.4	(1.01)
TALIS average	9.7	(0.15)	13.9	(0.21)	16.7	(0.20)

Source: OECD (2009a), Table 3.4

Support Received by Teachers for Professional Development

Teachers in TALIS were asked about the financial contributions which they made to the professional development undertaken, salary supplements received for participation, and whether scheduled time was received in order to participate in professional development activities.

Seventy-nine percent of teachers in Ireland who participated in professional development reported paying no costs (Table 3.6). This is higher than the TALIS country average of 65%. Looking at the comparison countries, Ireland is ahead of Austria (44%) and Poland (44%), where fewer than half of teachers paid no costs, and similar to Belgium

(Fl.) (81%), Denmark (77%) and Norway (80%), in terms of the percentages of teachers who paid no costs.

Few teachers in Ireland (3%), Belgium (Fl.) (3%), and Norway (3%) pay all the costs of professional development. The low percentage in Ireland may relate to the relatively low proportion of teachers taking qualification programmes (some of which may lead to salary increments after completion). In Austria, Denmark and Poland, the percentage paying all the costs rises to between 6 and 10%.

Table 3.7 shows that just under 6% of teachers in Ireland, who have undertaken professional development, report receiving a salary supplement. The corresponding TALIS country average is 11%. Receiving a salary supplement for professional development is relatively uncommon in all comparison countries, particularly in Belgium (Fl.) where only 2% of teachers report receiving a supplement. In Austria, this figure rises to 12%.

Table 3.6. Teacher Contribution to the Cost of Professional Development Undertaken – Ireland, Comparison Countries and TALIS Average

	Teacher had to pay none of the costs of the professional development		Teacher had to pay some of the costs of the professional development		Teacher had to pay all of the costs of the professional development	
	%	(SE)	%	(SE)	%	(SE)
Austria	43.7	(1.00)	49.7	(1.01)	6.6	(0.45)
Belgium (Fl.)	81.4	(1.32)	15.3	(1.10)	3.2	(0.46)
Denmark	77.3	(1.45)	16.3	(1.13)	6.4	(0.93)
Ireland	79.3	(1.03)	17.5	(0.99)	3.2	(0.46)
Norway	79.8	(1.14)	17.0	(1.05)	3.3	(0.44)
Poland	44.2	(1.30)	45.1	(1.12)	10.7	(0.85)
TALIS average	65.2	(0.29)	26.7	(0.27)	8.1	(0.15)

Source: OECD (2009a), Table 3.5

Table 3.7. Support for Professional Development Undertaken By Teachers – Ireland, Comparison Countries and TALIS Average

	Teacher received scheduled time		Teacher received salary supplement	
	%	(SE)	%	(SE)
Austria	89.0	(0.72)	11.7	(0.68)
Belgium (Fl.)	78.1	(1.63)	2.2	(0.49)
Denmark	71.8	(2.34)	9.2	(1.64)
Ireland	94.7	(0.53)	5.8	(0.67)
Norway	66.3	(1.56)	7.2	(0.74)
Poland	57.0	(1.68)	5.4	(0.61)
TALIS average	62.8	(0.34)	11.4	(0.20)

Source: OECD (2009a), Table 3.5

Ninety-five percent of teachers in Ireland report that they received scheduled time in which to participate in professional development (Table 3.7). This is the highest percentage across all TALIS countries and is well above the TALIS country average (63%). It may reflect the more centralised nature of professional development in Ireland than in other countries, as well as fewer opportunities, or lower motivation, to engage in non-traditional types of professional development.

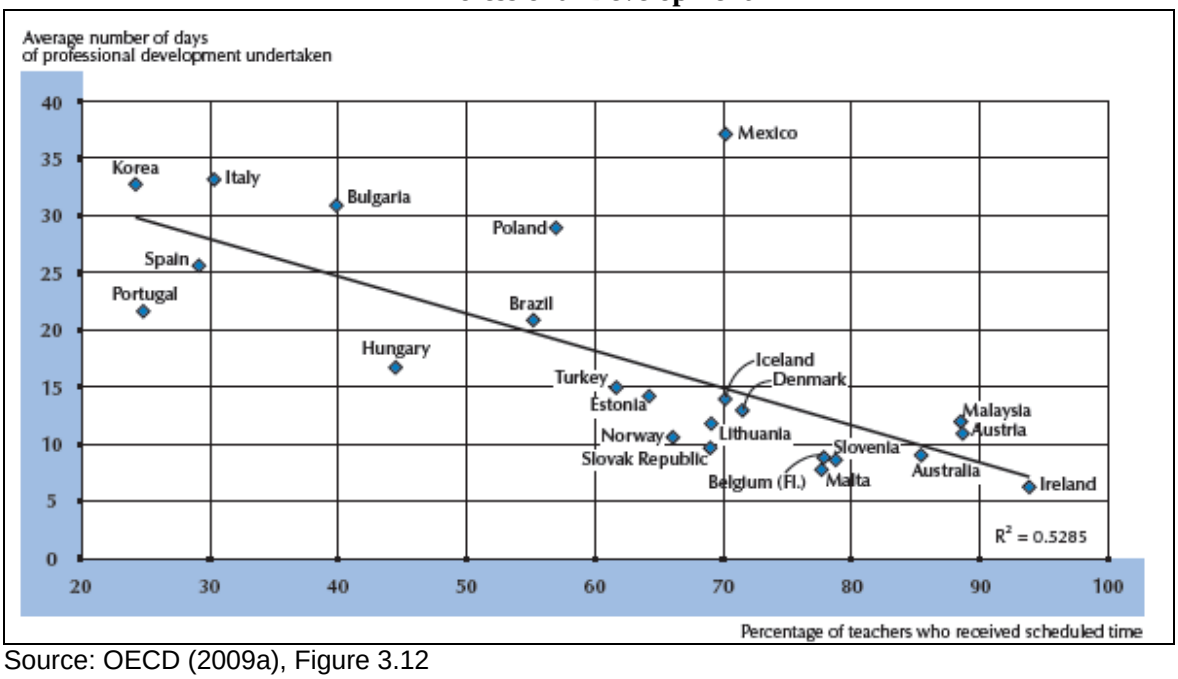
At country level, there is a negative relationship between the percentage of teachers who received scheduled time and the average number of professional development days undertaken (Figure 3.5). It is likely that it is only possible to give scheduled time to a high percentage of teachers if the number of professional development days is relatively small (OECD, 2009a).

The Department of Education and Science (2007, pp.138-139) reviews the literature dealing with the problem of providing scheduled time for professional development to teachers in the Irish context, citing Granville (2005, p.55), who refers to the

> recurring frustration among principals and deputy principals in relation to the release of teachers, to problems of substitution, and to the disruption of pupils' progress…

Granville (*ibid.*) suggests that 'there is a need for a decisive policy initiative to resolve the conflict between CPD demands and the integrity of the school teaching year'. The issue of teachers receiving scheduled time for professional development is also addressed in the *Towards 2016* (Ireland, 2006, p.126) social partnership agreement, where the importance of minimising the impact of professional development on teaching and learning time is again emphasised.

Figure 3.5. Percentages of Teachers Receiving Scheduled Time Compared to Average Days of Development Undertaken (2007 – 2008) – Among Those Teachers Who Undertook Some Professional Development



Source: OECD (2009a), Figure 3.12

Across TALIS countries, it is generally found that teachers who have to pay some or all of the costs of professional development had more development days than those who pay none of the costs. This is likely to be accounted for by the fact that when the average number of days of professional development is low, school authorities can afford to pay the cost. However, as the quantity of development increases (e.g., for qualification programmes), participants must meet at least part of the costs (OECD, 2009a).

Table 3.8 shows the average number of days of professional development taken by teachers in Ireland, comparison countries and on average across TALIS countries, according to the level of costs teachers paid. Thus, it can be seen that on average, teachers who paid none of the costs had about 13 days of professional development, teachers who paid some of the costs had 23 days and teachers who paid all of the costs had 32. In Ireland, teachers who paid none of the costs did just under 5 days of professional development in the 18 months prior to TALIS. This compares to 11 days for teachers who paid some of the costs and 17 days for teachers who paid all of the costs. The relationship holds in each of the comparison countries.

Table 3.8. Average Days of Professional Development Taken by Teachers According to the Level of Costs Teachers Paid – Ireland, Comparison Countries and TALIS Average

	Teacher paid none of the costs of the professional development		Teacher paid some of the costs of the professional development		Teacher paid all of the costs of the professional development	
	Mean	(SE)	Mean	(SE)	Mean	(SE)
Austria	8.2	(0.18)	12.8	(0.26)	14.6	(1.04)
Belgium (Fl.)	6.5	(0.23)	18.2	(1.88)	22.5	(3.34)
Denmark	11.0	(0.46)	19.0	(1.54)	21.7	(2.50)
Ireland	4.9	(0.15)	10.5	(0.73)	16.8	(2.72)
Norway	7.9	(0.27)	18.6	(1.13)	35.5	(4.10)
Poland	17.2	(1.00)	36.9	(1.80)	43.6	(5.11)
TALIS average	12.5	(0.13)	22.8	(0.43)	31.6	(0.93)

Source: OECD (2009a), Table 3.5a – web only

Barriers To Participation in Professional Development

On average across TALIS countries, about half of the teachers surveyed indicated that they wanted to participate in more professional development in the previous 18 months than was possible. The percentage in Ireland (54%) is close to the TALIS country average (55%). In order to better understand the barriers which teachers face, teachers who indicated that they would have liked to participate in more development were asked to select, from a list, the reasons which prevented them from doing so (see Tables 3.9a, 3.9b).

Reasons among teachers in Ireland, for not participating in more development, included lack of suitable professional development (45%), conflict with work schedule (43%), and family responsibilities (29%). The percentages are similar to the corresponding TALIS

country average percentages (42%, 47%, 30% respectively). Lack of suitable professional development appears to be a comparatively greater problem in Austria, where 64% of teachers reported this as a reason for non-participation (Tables 3.9a, 3.9b).

Fewer teachers in Ireland, than on average across TALIS countries, reported lack of prerequisites (6%), lack of employer support (14%) and expense (12%) as reasons for not undertaking professional development. Corresponding TALIS country averages are 7%, 15%, and 29%, respectively. Expense was cited by approximately half of teachers in Poland and by about 30% of teachers in Denmark and Norway, as a reason for non-participation.

Table 3.9a. Percentages of Teachers of Lower Secondary Education who Wanted to Take More Professional Development and Gave the Following Reasons for Not Undertaking Such Professional Development

	Did not have the pre-requisites		Too Expensive		Lack of Employer Support	
	%	(SE)	%	(SE)	%	(SE)
Austria	2.6	(0.46)	18.0	(0.93)	9.3	(0.79)
Belgium (Fl.)	3.6	(0.86)	11.8	(1.33)	10.9	(1.40)
Denmark	1.8	(0.44)	29.6	(1.94)	38.3	(1.76)
Ireland	5.5	(0.75)	12.2	(0.96)	13.9	(1.47)
Norway	2.5	(0.38)	31.6	(1.36)	26.4	(1.79)
Poland	3.4	(0.51)	51.2	(1.72)	12.3	(1.20)
TALIS average	7.2	(0.19)	28.5	(0.32)	15.0	(0.27)

Source: OECD (2009a), Table 3.7

Table 3.9b. Percentages of Teachers of Lower Secondary Education who Wanted to Take More Professional Development and Gave the Following Reasons for Not Undertaking Such Professional Development

	Conflict with work schedule		Family Responsibilities		No suitable professional development	
	%	(SE)	%	(SE)	%	(SE)
Austria	41.5	(1.34)	29.0	(1.21)	64.2	(1.15)
Belgium (Fl.)	43.2	(1.69)	40.6	(1.70)	38.8	(1.73)
Denmark	23.7	(1.90)	15.4	(1.21)	42.1	(1.99)
Ireland	42.6	(1.53)	29.4	(1.57)	45.2	(1.83)
Norway	50.4	(1.44)	26.5	(1.37)	30.0	(1.36)
Poland	40.7	(1.90)	32.6	(1.63)	38.7	(1.84)
TALIS average	46.8	(0.37)	30.1	(0.33)	42.3	(0.36)

Source: OECD (2009a), Table 3.7

Teachers' Ratings of Professional Development Impact

For each of the development activities in which teachers reported participating, they were asked to rate the impact of that activity from 'no impact' to 'a large impact'. Thus, as only teachers who reported participating in the activity could rate its impact, the percentages of teachers rating the impact of each activity vary. For certain activities where the percentages of teachers in Ireland participating were very low, it may be prudent to exercise caution when looking at the impact ratings as the lower rates of involvement may reflect higher motivation on the part of those who participated. This is, at best, an indirect approach to looking at the impact of professional development. Other approaches, which were not possible in the context of TALIS, include looking at the impact of teachers' professional development on student test scores.

The majority of teachers across TALIS countries report a moderate or high impact of professional development activities on their development as teachers. Looking at formal professional development in TALIS countries, over 80% of teachers, on average, report that courses and workshops (81%), qualification programmes (87%), professional development networks (80%), and individual and collaborative research (89%) have a moderate or high impact (Tables 3.10a, 3.10b). In Ireland, individual or collaborative research (87%) and qualification programmes (93%) are the activities teachers consider to have the highest impact on their development. It is noteworthy that these activities are generally time intensive and voluntary, and in Ireland, the participation rates are relatively low (26% and 11%, respectively).

On average across TALIS countries, fewer teachers consider education conferences and seminars (74%), observation visits to other schools (75%), and mentoring and peer observation (78%), to have a high or moderate impact. Results are similar for Ireland: about 80% of teachers in Ireland report that observation visits to other schools[6] have had a moderate or high impact upon their development as teachers, and 70-75% of teachers report a moderate or high impact of education conferences and seminars, and mentoring and peer observation. It is not clear whether teachers in TALIS rated the impact of mentoring from the point of view of the mentor or the person being mentored. Across the seven activities, teachers in Belgium (Fl.) are less likely than teachers in any of the comparison countries to rate the impact as high or moderate.

Looking at the informal development activities (Table 3.10c), 71% of teachers in Ireland reported that reading professional literature had a moderate or high impact. This is below the corresponding TALIS average of 83%. Teachers in Ireland are also less likely to value informal dialogue to improve teaching (83%) than on average across TALIS countries (87%).

[6] Note that only 8% of teachers in Ireland participated in observation visits to other schools

Table 3.10a. Percentages of Lower Secondary Teachers Reporting Moderate or High Impact of Courses and Workshops, Education Conferences and Seminars, and Qualification Programmes – Ireland, Comparison Countries and TALIS Average

	Courses and Workshops		Education Conferences and Seminars		Qualification Programmes	
	%	(SE)	%	(SE)	%	(SE)
Austria	75.7	(0.89)	55.5	(1.24)	89.0	(1.21)
Belgium (Fl.)	52.9	(1.26)	42.6	(1.82)	67.0	(2.01)
Denmark	86.0	(0.96)	82.9	(1.70)	96.8	(1.18)
Ireland	81.9	(0.96)	74.5	(1.55)	92.5	(1.53)
Norway	79.3	(0.96)	73.7	(1.46)	93.7	(1.24)
Poland	86.3	(0.73)	75.8	(1.31)	92.1	(0.97)
TALIS average	80.6	(0.23)	73.9	(0.31)	87.2	(0.35)

Source: OECD (2009a), Table 3.8

Table 3.10b. Percentages of Lower Secondary Teachers Reporting Moderate or High Impact of Observation Visits, Professional Development Networks, and Research – Ireland, Comparison Countries and TALIS Average

	Observation visits to other schools		Professional development network		Individual or collaborative research		Mentoring and peer observation	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	61.0	(2.99)	68.6	(1.33)	88.4	(0.96)	72.7	(1.63)
Belgium (Fl.)	47.0	(2.84)	53.9	(1.92)	67.6	(1.52)	48.1	(2.64)
Denmark	83.6	(3.34)	88.1	(1.32)	94.6	(0.86)	78.7	(3.45)
Ireland	81.0	(4.35)	78.7	(1.36)	86.8	(1.41)	71.3	(2.81)
Norway	71.9	(2.39)	81.1	(1.83)	95.3	(1.39)	77.9	(2.62)
Poland	78.2	(2.29)	88.3	(0.91)	92.8	(0.90)	77.9	(1.11)
TALIS average	74.9	(0.50)	80.2	(0.31)	89.3	(0.30)	77.6	(0.41)

Source: OECD (2009a), Table 3.8

Table 3.10c. Percentages of Lower Secondary Teachers Reporting Moderate or High Impact of Reading Professional Literature or Engaging in Informal Dialogue – Ireland, Comparison Countries and TALIS Average

	Reading professional literature		Informal dialogue to improve teaching	
	%	(SE)	%	(SE)
Austria	82.4	(0.69)	84.9	(0.71)
Belgium (Fl.)	57.8	(1.20)	71.7	(1.05)
Denmark	84.9	(1.14)	92.8	(0.89)
Ireland	71.0	(1.55)	83.0	(1.00)
Norway	78.1	(0.93)	95.7	(0.44)
Poland	93.4	(0.49)	90.0	(0.70)
TALIS average	82.8	(0.22)	86.7	(0.18)

Source: OECD (2009a), Table 3.8

Induction and Mentoring

TALIS asked school principals about the existence of induction and mentoring processes in their schools and the organisation of these processes. Following a brief introduction, this section examines, in turn, induction and mentoring.

The OECD's (2005) review of teacher policy outlines some of the difficulties facing teachers new to the profession. Citing Veenman (1984) and Britton *et al*. (1999), they note that the main challenges faced by beginning teachers include

> motivating students to learn, classroom management, dealing with individual differences between students, assessing student work and handling communication with parents (OECD, 2005, p.117).

A communication on the quality of teacher education from the Commission of the European Communities (2007) highlights the fact that

> …only half of the countries in Europe offer new teachers any systematic kind of support (e.g., induction, training, mentoring) in their first years of teaching. Explicit frameworks to assist teachers who experience difficulties in performing their duties adequately exist in only one third of countries.

The 'sink or swim' nature of the Irish context in particular has been commented upon (Coolahan, 2003), although the introduction in 2002 of a National Pilot Project on Teacher Induction (see Killeavy & Murphy, 2006) is a welcome development.

The National Pilot Project on Teacher Induction (NPPTI) initially involved forty newly qualified teachers at primary and post-primary level, accounting for 3.5% and 3% of graduates, respectively. The number of participants increased over a five year period, such that by the academic year 2006/2007, 17% of post-primary graduates were participating in the project, which included mentoring, professional development and teacher observation (DES, 2007).

Induction

In TALIS, principals were asked to indicate whether or not teachers undertake a formal induction process when they begin teaching in the school. The induction may be organised by the school alone, the school together with agencies or institutions outside of the school, or by outside agencies alone.

Table 3.11 shows that 84% of teachers in Ireland teach in schools where the principal teacher reports that a formal induction programme is in place for all teachers new to the school. This is lower than in Belgium (Fl.) where virtually all teachers receive induction (95%), but greater than the corresponding TALIS average (45%) and greater than the percentages in each of the comparison countries (Austria, 32%; Denmark, 48%; Norway, 30%; Poland, 14%). However, while the majority of teachers in Ireland work in schools where induction programmes are reported to be in place, TALIS gives little indication of the quality or intensity of such programmes. This issue is addressed in the conclusion of this chapter.

Relatively few teachers in Ireland (7%) teach in schools where induction only takes place for those in their first teaching job. This is common in Poland (79%).

Fewer than 10% of teachers in Ireland work in schools where no formal induction process is in place. In Austria (44%), Denmark (29%) and Norway (52%), it is comparatively more common for teachers to work in schools without formal induction programmes.

Table 3.11. Percentages of Teachers in Ireland and Comparison Countries Whose School Principal Reported the Existence of a Formal Induction Process for Teachers New to the School

	Yes, for all teachers new to the school		Yes, but only for those in their first teaching job		No formal induction process	
	%	(SE)	%	(SE)	%	(SE)
Austria	32.1	(3.15)	23.6	(2.61)	44.3	(2.99)
Belgium (Fl.)	94.4	(1.69)	3.9	(1.21)	1.7	(1.08)
Denmark	47.7	(5.22)	23.5	(4.51)	28.8	(3.81)
Ireland	83.7	(3.67)	7.2	(2.68)	9.0	(2.64)
Norway	29.9	(3.83)	18.3	(3.25)	51.8	(4.27)
Poland	14.3	(3.13)	79.4	(3.63)	6.3	(2.15)
TALIS average	44.5	(0.73)	26.5	(0.70)	29.0	(0.62)

Source: OECD (2009a), Table 3.6

In Ireland, of teachers who work in schools where formal induction takes place, the majority (84.9%, SE 3.28) work in schools where the induction is organised by the school alone (Table B3.1, Appendix B). The remainder (15.1%, SE 3.28) work in schools where the school, together with agencies or institutions outside of the school, organise the induction process.

No teachers in Ireland work in schools where outside agencies or institutions alone organise the induction process. This practice does not exist to a large degree in comparison countries either, as only 2.6% of teachers (SE 1.46) in Austria work in schools where this takes place and 1% of teachers or fewer are in such schools in Denmark (0.8%, SE 0.77), Norway (1.0%, SE 1.03%) and Poland (0.4%, SE 0.38).

Although it might be considered interesting to examine the existence of induction programmes by school type in Ireland, 18% of teachers are missing data on this variable and differences between school types are not statistically sigificant. Table B3.2 in Appendix B presents, by school type, the percentages of teachers in schools where induction processes are in place and their associated standard errors.

Mentoring

In Ireland, 64% of teachers work in schools where the principal indicated that mentoring programmes are in place for all teachers new to the school (Table 3.12). This exceeds the TALIS county average of 37%. As above with induction processes, mentoring processes

are almost universal in schools in Belgium (Fl.); over 90% of teachers in Belgium (Fl.) work in schools where mentoring processes are reported to exist for all teachers new to the school. There is large variation in the availability of mentoring processes for teachers new to a school across the comparison countries, ranging from 23% in Austria and Poland, to over 60% in Denmark and Ireland, and 91% in Belgium (Fl.). The percentage in Norway (43%) is close to the TALIS average (37%).

A further 11% of teachers in Ireland work in schools where the principal indicated that mentoring programmes are in place only for those in their first teaching job. A quarter of teachers in Ireland work in schools where there is no formal mentoring process in place.

Principals were asked to indicate whether or not the mentor teacher's main subject area is usually the same as that of the new teacher. In Ireland, of teachers who work in schools where mentoring programmes are in place, 69% work in schools where the principals reported that the mentors' subject areas correspond to those of the new teacher (Table B3.3, Appendix B). Similarly, in Norway, about two-thirds of teachers work in schools where, if a mentoring programme is in place, the subject areas of the mentor and the new teacher are usually the same. Over 80% of the time this is the case in Austria and Poland, whereas in Denmark (44%) and Belgium (Fl.) (32%), the subject areas of the mentor and new teacher are often not the same.

Table 3.12. Percentages of Teachers in Ireland and Comparison Countries Whose School Principal Reported the Existence of a Mentoring Programme or Policy for Teachers New to the School

	Yes, for all teachers new to the school		Yes, but only for those in their first teaching job		No formal mentoring process	
	%	(SE)	%	(SE)	%	(SE)
Austria	23.0	(2.73)	23.0	(2.64)	54.1	(3.24)
Belgium (Fl.)	90.5	(2.08)	8.8	(2.02)	0.7	(0.49)
Denmark	62.6	(4.52)	27.0	(3.77)	10.4	(2.65)
Ireland	63.8	(4.21)	10.7	(2.44)	25.5	(4.10)
Norway	43.3	(3.85)	25.4	(3.67)	31.3	(3.67)
Poland	23.5	(3.97)	71.9	(4.32)	4.6	(1.87)
TALIS average	36.5	(0.75)	38.4	(0.76)	25.1	(0.60)

Source: OECD (2009a), Table 3.6

Principals generally consider mentoring to play an important role in helping new teachers to improve their instructional effectiveness (Table B3.4, Appendix B). In Ireland, over 80% of teachers work in schools where the principal indicated that mentoring is of high importance for new teachers. A further 18% work in schools where mentoring is rated as being of moderate importance. Across comparison counties, principals attribute a high degree of importance to mentoring: in all countries, over 90% of teachers work in schools where the principal considers mentoring of new teachers to be of moderate or high importance.

Table B3.5 (Appendix B) shows the percentages of teachers in Ireland, by school type, in schools where mentoring takes place. Some differences are observed between the school types. Whereas almost 86% of teachers in vocational schools are in schools where mentoring is provided for all teachers new to the school, this is the case for just 53% of teachers in secondary schools. Conversely, 11% of teachers in vocational schools do not have formal mentoring processes available to them, compared to 34% of teachers in secondary schools. Examining Bonferroni-adjusted 95% confidence intervals show that both differences are statistically significant with $p<0.05$ ([-53.7, -10.9] and [1.2, 44.6] respectively).

Conclusion

The professional development context in Ireland, described in this chapter, is one where the vast majority of teachers participate in at least some development activities, although the average number of professional development days is low compared to other TALIS countries, and of these, less than half are compulsory. Teachers in Ireland reported that they attended an average of just under 6 days of professional development in the 18 months prior to TALIS, compared to a TALIS country average of approximately 15 days. TALIS findings show that the average number of professional development days undertaken in the comparison countries ranged from 8 days in Belgium (Fl.) to just over 26 days in Poland. Almost 90% of teachers in Ireland indicated that they had participated in some professional development, about the same as the TALIS country average.

An earlier and more narrowly focused small scale study of professional development in Ireland (Finucane, 2004) found that teachers had attended, on average, 2.5 days of in-service training in the academic year 2001/2002. Although quantity of professional development was reported in terms of attendance at in-service training and the small sample size of just 16 schools means that the findings are not generalisable to the population of Irish teachers, it is interesting to note that this study also found a low intensity of professional development to be a feature of the Irish system.

According to TALIS findings, attendance at courses and workshops and participation in networks are the most frequent types of formal professional development in Ireland. Almost 86% of teachers in Ireland reported that they had attended courses and workshops and 51% indicated involvement with a professional development network. Conversely, levels of involvement in qualification programmes (11%), mentoring and peer observation (18%), and individual and collaborative research (26%) are lower than the corresponding TALIS averages. There appears to be scope for teachers to engage in more varied professional development activities than is currently the case; something which was also observed in the case of Ireland in an earlier OECD study of upper secondary schools (OECD, 2004, Table 4.1a).

Teachers in Ireland receive significant financial support towards professional development, in so far as 80% pay none of the costs of development activities (TALIS average: 65%), although few receive a salary supplement for participation (IRL: 6%,

TALIS average: 11%). Scheduled time is routinely given for professional development in Ireland, with 95% of teachers reporting that they receive scheduled time for development activities, compared to 63% on average across TALIS countries.

The practice of large percentages of teachers receiving scheduled time for professional development is not unproblematic. The trade-off between teachers receiving scheduled time and the intensity of development received is noted across many TALIS countries (OECD, 2009a); e.g. in Poland, there is a high participation rate in professional development and a high average number of days per teacher, but only half of the teaching population receive scheduled time for professional development activities. In Ireland, there is a low average number of days per teacher, but almost all teachers receive scheduled time for attendance. In the Irish context, the need to minimise disruption to the school, while ensuring that teachers' professional development needs are being met, has been well documented (e.g. DES, 2007).

Over half of teachers in Ireland report that they would have liked to undertake more professional development than they had done in the 18 months prior to TALIS. Similar to other TALIS countries, conflict with work schedule and the unavailability of suitable development were most commonly cited in Ireland as barriers to participation. The expense associated with professional development was less frequently identified as a barrier to participation in Ireland than on average across TALIS countries (12% vs. 29%).

Generally, teachers in Ireland who participated in professional development reported that the activities undertaken had a moderate or high impact on their development. Over 80% of those who undertook qualification programmes or individual or collaborative research, participated in courses or workshops, or went on observation visits to other schools, reported that the activities had a moderate or high impact.

About one-third of teachers in Ireland report a high level of professional development need for ICT. It was noted in Chapter 2 that almost two-thirds of teachers work in schools where the principal considers an inadequacy of computers to hinder instruction. Together, these emphasise the need for investment in ICT infrastructure and training. Any investment in ICT infrastructure must be accompanied by professional development opportunities for teachers, in order for the best use to be made of ICT in the classroom. Similar findings emerged in a recent audit of ICT in Irish schools (DES, 2008).

Almost 84% of teachers in Ireland work in schools where the principal reported the existence of a formal induction process for all teachers new to the school and just under 64% of teachers work in schools where the principal reported that a mentoring programme is in place for all teachers new to the school. One limitation of TALIS is that principals were asked only about the existence of induction and mentoring programmes in their schools but were not asked about the duration or content of these programmes. It is therefore not possible to look at how the quality or intensity of induction or mentoring programmes vary across or within countries. Although the majority of teachers in Ireland are in schools where the principal reports the existence of school-led induction programmes, such programmes may not be adequate to support the challenges faced by beginning teachers. Killeavy and Murphy (2006) found substantial variation in the quality

and intensity of school-based induction programmes in Ireland. They acknowledge that certain schools operate structured induction programmes but note that in many schools, induction can consist of as little as a one-hour orientation to the working of the school, a welcoming talk by the principal, or the provision of a handbook outlining school policies and procedures. The absence of a nationally available programme for teacher induction for all beginning teachers is an issue to be addressed.

4. Teacher Practices, Beliefs and Attitudes

This chapter looks at teachers' beliefs about teaching, their instructional practices, their co-operation with other teachers in the school and their perceptions of teacher-student relations. It also presents findings on two job-related attitudes: self-efficacy and job satisfaction. In addition, results related to classroom environment are reported. Key variables such as teacher-student relations, classroom climate, teacher self-efficacy and job satisfaction are examined by school size, school type, disadvantaged status and gender composition. The chapter begins by outlining how variation in outcome measures is partitioned into variance at the country-, school- and teacher-levels (see Box 4.1). Technical terms used in this chapter are explained in Box 4.2.

Box 4.1. Decomposition of Variance

Teachers within schools or countries can be expected to hold common beliefs, use similar instructional practices and generally have more in common with each other than with teachers in other schools or countries. Goldstein (1999, p.1) emphasises that

> once groupings are established, even if their establishment is effectively random, they will tend to become differentiated, and this differentiation implies that the group and its members both influence and are influenced by the group membership.

The total variation in outcome variables such as teachers' beliefs or teachers' use of instructional practices can be partitioned into variation which occurs between countries, variation which occurs within countries but between schools, and variation which occurs between teachers within schools. If variation is found to occur mainly at country level, school systems within countries appear to play an important role. If variation occurs mainly at the school-level, it can be concluded that socialisation processes within the school are a more important influence. Finally, if variation occurs mainly at teacher-level, i.e. there is variation between teachers within schools, it can be hypothesized that country- and school-level factors are less important and that the outcome varies because of differences between individual teachers.

In this chapter, figures for the between-country variance on various outcome measures reported by the OECD (2009a) are presented as well as the percentages of variance which lie between- and within-schools on average across TALIS countries. The three components sum to 100%. Variance between and within-schools in Ireland was computed for the present analyses and, looking specifically at the variation in Ireland, these two components sum to 100%. As the variation within-schools is the variation between-teachers within schools, in this chapter, within-school variance is sometimes referred to as variation between teachers and can be assumed to be the result of subtracting the between-school variance from 100.

Box 4.2. Interpreting Ipsative Means, Multivariate Analyses and Correlation Significance

Ipsative Mean: Ipsative mean scores are based on standardised individual responses expressed as preferences between two or more options. This helps reduce the effects of response bias. They are calculated as follows: mean scores are calculated for two or more indices (based on their individual items) and for an overall index (based on all items combined). For each teacher, the mean score across all items in the index is subtracted from the mean score on each separate index. The resulting scores are averaged across teachers in a country and give a relative endorsement of one index compared with the other. More positive mean scores indicate that one index is more strongly supported than the other(s). Ipsative mean scores can be used to show the relative strength of preferences within countries when mean scale scores are not fully comparable across countries (see note on comparability in Appendix C).

Regression: Regression is used to ascertain the effects of one or more predictor (or independent) variables on a predicted (dependent) variable. Variables can be dichotomous (yes/no) or continuous (e.g., age). Multiple regression allows for the identification of a statistical effect (or relationship) between two variables (for example, teacher-student relations and teacher self-efficacy), while controlling for other, related variables, including teacher and school characteristics. An effect may be positive or negative. Readers are cautioned not to assign causality to significant associations between variables that are confirmed by multiple regression analyses. Multiple regression (rather than multi-level modelling) is implemented in this report where between-school variance on the dependent variable is less than 5% or, where it exceeds 5%, the selected school-level variables do not fit the model well. A weakness of the regressions presented in the current chapter is the low R-squared values associated with some regression equations (see foot of relevant tables).

Multilevel Models: As outlined in Chapter 1, a two-stage sampling design was used in TALIS, whereby schools were first selected and then, within each school, teachers were sampled. Teachers within schools may be expected to have more in common with each other than with teachers in other schools. A multilevel model allows variation in teacher responses to be split into between- and within-school components, thereby allowing an investigation of whether school-related factors, and/or individual factors, are associated with the outcome of interest. Multi-level modelling is implemented in this report where between-school variance on the dependent variable exceeds 5% and there was a satisfactory fit for the selected school-level variables.

Significance of a correlation: The significance of a correlation is determined by computing the *t* statistic (i.e., correlation coefficient/standard error). A table of critical t-values, using 100 degrees of freedom (an approximation based on the number of variance strata in the BRR variance estimation method), provides the corresponding *p* value. Correlation coefficients are considered ‘weak’ if they range from .00 to .10, ‘weak to moderate’ from .11 to .25, ‘moderate’ from .26 to .40, moderate to strong from .41 to .55, and ‘strong’ if greater than .55. Interpretations are the same for negative correlations.

Teachers' Beliefs About Instruction

This section looks at the beliefs about instruction held by teachers in Ireland and comparison countries. Teachers were asked to indicate, on a 4-point Likert scale, their levels of agreement with various statements regarding teaching and learning. The statements are given in Table 4.1, along with the percentages of teachers in Ireland indicating that they agree or strongly agree with each one. Due to the omission of Icelandic data from the international database, it is not possible to compute accurate TALIS averages for the percentages of teachers in agreement with each of the statements.

From the items in Table 4.1, two scales were devised: a measure of teachers' direct transmission beliefs about learning and instruction; and a measure of teachers' constructivist beliefs about teaching. According to the OECD (2009a, p.269), teachers with strong constructivist beliefs see their role as facilitating learning, while giving students autonomy, whereas a direct transmission view sees the teacher as the instructor, providing information and demonstrating solutions. Teachers can, of course, endorse both direct transmission and constructivist views to varying degrees.

Table 4.1. Percentages of Teachers in Ireland Who Agree or Strongly Agree with Each Statement in the Direct Transmission and Constructivist Belief Scales

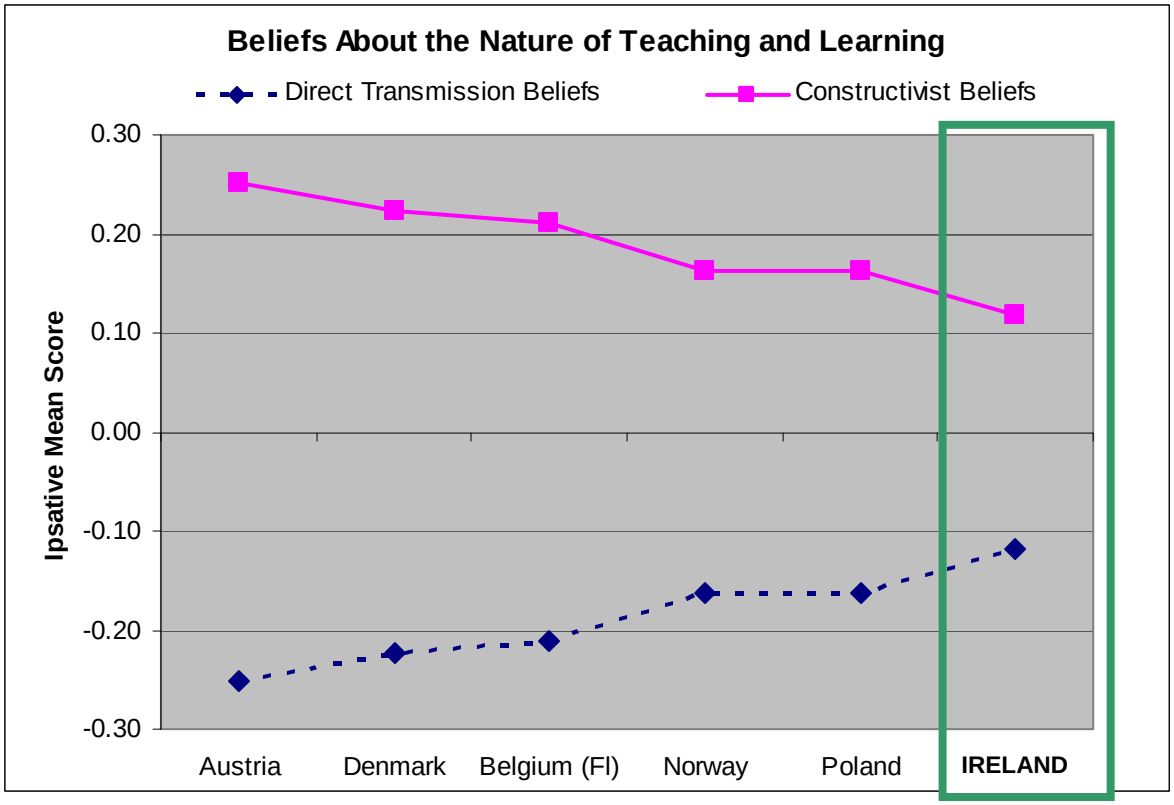
	%	(SE)
Direct transmission beliefs about teaching		
Effective/good teachers demonstrate the correct way to solve a problem.	89.1	(0.78)
Instruction should be built around problems with clear, correct answers, and around ideas that most students can grasp quickly.	75.2	(1.01)
How much students learn depends on how much background knowledge they have; that is why teaching facts is so necessary.	59.0	(1.05)
A quiet classroom is generally needed for effective learning.	48.7	(1.49)
Constructivist beliefs about teaching		
My role as a teacher is to facilitate students' own inquiry.	82.8	(0.97)
Students learn best by finding solutions to problems on their own.	80.8	(1.07)
Students should be allowed to think of solutions to practical problems themselves before the teacher shows them how they are solved.	94.3	(0.57)
Thinking and reasoning processes are more important than specific curriculum content.	76.8	(1.11)

Figure 4.1 shows the ipsative mean scores (see Box 4.2) for the direct transmission and constructivist belief scales in Ireland and selected comparison countries. Positive values indicate endorsement of one scale to a greater extent than the other. A smaller distance between the two data points indicates less extreme support for one set of beliefs over the other; i.e., teachers give endorsement to both sets of beliefs to a greater degree than if the distance between the two points is wide.

In Ireland, and in each of the comparison countries, teachers indicate stronger endorsement of constructivist beliefs about teaching, than of direct transmission beliefs

(Figure 4.1). However, teachers in Ireland hold somewhat weaker constructivist beliefs, and somewhat stronger direct transmission beliefs, than teachers in the comparison countries.

Figure 4.1. Ipsative Mean Scores for Direct Transmission and Constructivist Beliefs about Teaching Among Teachers of Lower Secondary School Students – Ireland and Comparison Countries



Source: OECD (2009a), Figure 4.2.

In addition to looking at differences in mean scores on the two scales, it is also useful to consider whether individual teachers who hold direct transmission beliefs are more or less likely to hold constructivist beliefs, and vice versa. Although it might be expected that direct transmission and constructivist beliefs are contradictory in nature, the two are found to be positively associated in Ireland and in each of the comparison countries, apart from Austria (see Table 4.2). In Austria, teachers tend to endorse one set of beliefs rather than the other. However, in Ireland, and other comparison countries, as teachers' scores on one scale increase, they tend also to increase on the other. In general, across TALIS countries, correlations between constructivist and direct transmission beliefs are positive (OECD, 2009a, Table 4.1).

Table 4.2. Correlations between Direct Transmission and Constructivist Beliefs about Teaching, for Ireland and Comparison Countries

	Correlation coeff. (r_{xy})	(SE)
Austria	-0.24*	(0.019)
Belgium (Fl.)	0.17*	(0.017)
Denmark	0.14*	(0.028)
Ireland	0.20*	(0.022)
Norway	0.14*	(0.027)
Poland	0.31*	(0.022)

Source: OECD (2009a, Table 4.1), Standard Errors computed from TALIS database.
*Statistically significant, p<0.01.

Variance in Teachers' Beliefs

An examination of the extent to which teachers within countries and between and within schools share beliefs shows that, across TALIS countries, a quarter of the variation in constructivist beliefs, and over half the variation in direct transmission beliefs, are accounted for by variance between countries (OECD, 2009a, Figure 4.3). Therefore, it appears that school systems, cultures and pedagogical traditions of a country influence the beliefs of teachers within that country. However, there is little evidence that the beliefs of individual teachers within a school are affected by the beliefs of other teachers in the school, as across TALIS countries, the between-school variance is low on both indices of teacher beliefs (see Box 4.1). Thus teachers' beliefs about instruction appear not to be greatly influenced by characteristics of the school. Conversely, within-school variance is high across TALIS countries and the OECD (2009a, p.96) suggests that this may indicate how teachers with varying beliefs about instruction can work well side by side in the same school.

In Ireland, of the total variance in teachers' direct transmission beliefs about instruction, just 1% is accounted for by variance between schools. Of the total variance in constructivist beliefs, under 3% is accounted for by variance between schools. The fact that over 95% of variance in teacher beliefs in Ireland is between teachers within schools shows that variation in teacher beliefs in Ireland, as in other TALIS countries, occurs primarily at the teacher level rather than at the school level.

Association Between Teacher Beliefs and Other Variables

Given the low between-school variance in teacher beliefs, it appears likely that characteristics of individual teachers, their own schooling, initial teacher training, teaching experience and professional development opportunities, may influence their beliefs to a greater extent than school characteristics. Data from TALIS permit examinations of the associations between teacher beliefs and demographic factors such as gender and teaching experience, and between teacher beliefs and professional development activities. These are examined in the following sections.

Teacher Age

In Ireland, teachers' age[1] is very weakly related to their beliefs about the nature of teaching and learning. A weak correlation is found between teachers' age and the extent to which they hold direct transmission beliefs ($r=0.07$, $p<0.01$). The correlation between teachers' age and their endorsement of constructivist beliefs is not statistically significant ($r=-0.04$, $p=0.13$).

Other Demographic Factors

Table 4.3 presents the results of a multiple regression (see Box 4.2 for technical details) with direct transmission beliefs as the dependent variable. Gender, subject taught, experience and level of qualifications are independent variables. Years of teaching experience is a continuous variable[2], so the regression coefficient corresponds to the change in direct transmission beliefs associated with each year's increase in teaching experience. The remaining independent variables are binary; therefore, the coefficient represents the difference in direct transmission beliefs between teachers in the two categories represented by the explanatory variable (e.g. for the explanatory variable gender, the coefficient represents the difference in direct transmission beliefs between female and male teachers).

Female teachers in Ireland are significantly less likely than male teachers to hold direct transmission beliefs about teaching (Table 4.3). This is also found to be the case in more than half of all TALIS countries (OECD, 2009a, Table 4.3).

In Ireland, teaching experience is also statistically significantly associated with direct transmission beliefs, with more experienced teachers more likely to hold direct transmission beliefs. However, each extra year of teaching experience is associated only with a very small increase in the strength of teachers' direct transmission beliefs (Table 4.3).

Neither teachers' level of qualification, nor the subject they teach, is significantly associated with direct transmission beliefs in Ireland. This is also the case in more than half of TALIS countries.

[1] Teachers' age was recoded to the mid-point of the original response categories; e.g., 30 – 39 was recoded to 34.5. The original scale was 1: Under 25; 2: 25-29; 3: 30-39; 4: 40-49; 5: 50-59; 6: 60+. Category 6 was recoded to 62.5.

[2] Teachers' years of experience was recoded to the mid-point of the original response categories to give a quasi-continuous scale. The original categories were as follows: 1: First year teaching; 2: 1-2 years; 3: 3-5 years; 4: 6-10 years; 5: 11-15 years; 6: 16-20 years; 7: More than 20 years. Although the top category was unbounded, values in this category were recoded as 30, after examining the average age of teachers' in this category. Using 22 as an estimated starting age for teachers, and given the average age of teachers in Category 7 as 52, implies that a teacher in this category has, on average, 30 years of experience.

Table 4.3. Multiple Regression of Teachers' Direct Transmission Beliefs – Ireland

	Coeff.	(SE)	t	p
Gender (Female – Male)	-0.116	(0.035)	-3.329	**0.001**
Subject Taught (Math/Science teacher – Other)	-0.013	(0.049)	-0.270	0.788
Subject Taught (Humanities teacher – Other)	-0.047	(0.048)	-0.967	0.336
Years teaching experience	0.005	(0.001)	4.013	**<.001**
Teacher qualifications (Masters or above – Bachelor or below)	-0.040	(0.037)	-1.082	0.282

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.014.

In Ireland, teachers' constructivist beliefs are not significantly associated with the teacher background characteristics of gender, subject taught, years experience or teacher qualifications (see Table C4.1, Appendix C). In more than half of TALIS countries, although not in Ireland, teachers of mathematics or science are more likely to endorse constructivist beliefs than teachers of other subjects (OECD, 2009a, Table 4.3).

Professional Development Activities

An examination of the association between professional development activities and teachers' beliefs about instruction shows that in many TALIS countries, a negative association holds between direct transmission beliefs and participation in professional development activities. In Ireland (as in comparison countries Austria and Norway), teachers who take more days of professional development and participate in workshops and courses, are less likely to endorse direct transmission views. In Ireland, as in the majority of TALIS countries, participation in other types of professional development, such as networks or mentoring, is not associated with direct transmission beliefs (OECD, 2009a, Table 4.6).

Although in some TALIS countries, holding constructivist beliefs is shown to be associated with participation in professional development activities, this is not the case in Ireland. Here, constructivist beliefs are not found to be associated with quantity of professional development or participation in professional development activities (*ibid.*).

Instructional Practices

This section examines the instructional practices reportedly used by lower secondary teachers. Teachers were asked to indicate the frequency with which they engaged in various activities[3]. Frequencies were given on a 5-point scale, ranging from 'never or hardly ever' to 'in almost every lesson'. Following factor analysis, three scales emerged which describe different (though not mutually exclusive) sets of teaching practices: structuring practices, student-oriented practices and enhanced activities. The constituent items of each of these scales are given in Table 4.4, along with the percentages of teachers

[3] Teachers were asked to respond to items on instructional practices with reference to a particular class that they taught in one of their main subject fields. The 'target class' was defined as the first Junior Cycle class the teacher typically teaches after 11a.m. on Tuesdays.

in Ireland who report using them in three-quarters or more of lessons. Percentages of teachers in Ireland who report using these practices less frequently are given in Table C4.2 (Appendix C).

It is not possible to directly compare countries' mean scores on the indices of instructional practices as the structure of the indices is not completely invariant across countries (OECD, 2009a). Therefore, relative data are presented, i.e., scores that describe the relative importance, within a country, of each of the teaching practices examined in TALIS. Figure 4.2 shows ipsative mean scores on these scales for Ireland and comparison countries.

In all six countries shown in Figure 4.2, teachers show a preference for structuring practices. This preference is particularly pronounced in Ireland, where teachers show a greater preference for structuring practice than in any of the comparison countries. Indeed, Irish teachers show the strongest preference for structuring practices across all TALIS countries (OECD, 2009a, Figure 4.4). Of the comparison countries, teachers in Norway and Denmark express the weakest preference for structuring activities.

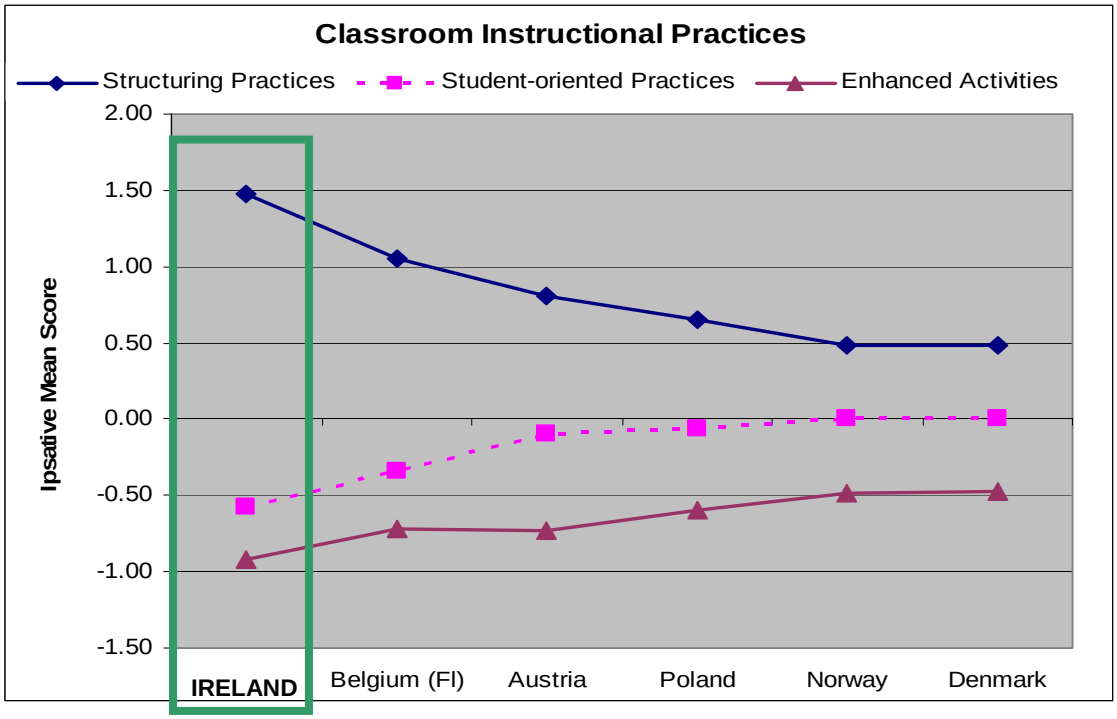
Across all TALIS countries, teachers indicate a stronger preference for student-oriented activities than for enhanced activities. In Ireland, both of these practices are used relatively infrequently, something that is discussed further in the conclusion of this chapter.

Differences across countries in the frequency of these practices may be attributed to system-level influences as well as the requirements of specific subjects. Across TALIS countries, structuring practices are more evident (than other practices) in mathematics and science classes, student-oriented practices occur more often in practical and vocational subjects and in technology, while enhanced activities are more clearly evident in the humanities (e.g., language, religion) (OECD, 2009a, Figure 4.5).

Table 4.4. Percentages of Teachers in Ireland Who Report Using, in Three-quarters or More of Lessons, Each Activity of the Teaching Practices Scales

	%	(SE)
Index of structuring practices		
I explicitly state learning goals.	58.2	(1.32)
I review with the students the homework they have prepared.	73.5	(0.91)
At the beginning of the lesson I present a short summary of the previous lesson.	61.6	(1.34)
I check my students' exercise books.	60.1	(1.34)
I check, by asking questions, whether or not the students have understood the subject matter.	86.8	(0.81)
Index of student-oriented practices		
Students work in small groups to come up with a joint solution to a problem or task.	10.2	(0.71)
I give different work to the students that have difficulties learning and/or to those who can advance faster.	19.4	(0.96)
I ask my students to suggest or to help plan classroom activities or topics.	5.2	(0.56)
Students work in groups based upon their abilities.	9.7	(0.82)
Index of enhanced activities		
Students work on projects that require at least one week to complete.	12.2	(0.73)
Students make a product that will be used by someone else.	3.6	(0.47)
I ask my students to write an essay in which they are expected to explain their thinking or reasoning at some length.	3.6	(0.42)
Students hold a debate and argue for a particular point of view which may not be their own.	3.1	(0.44)

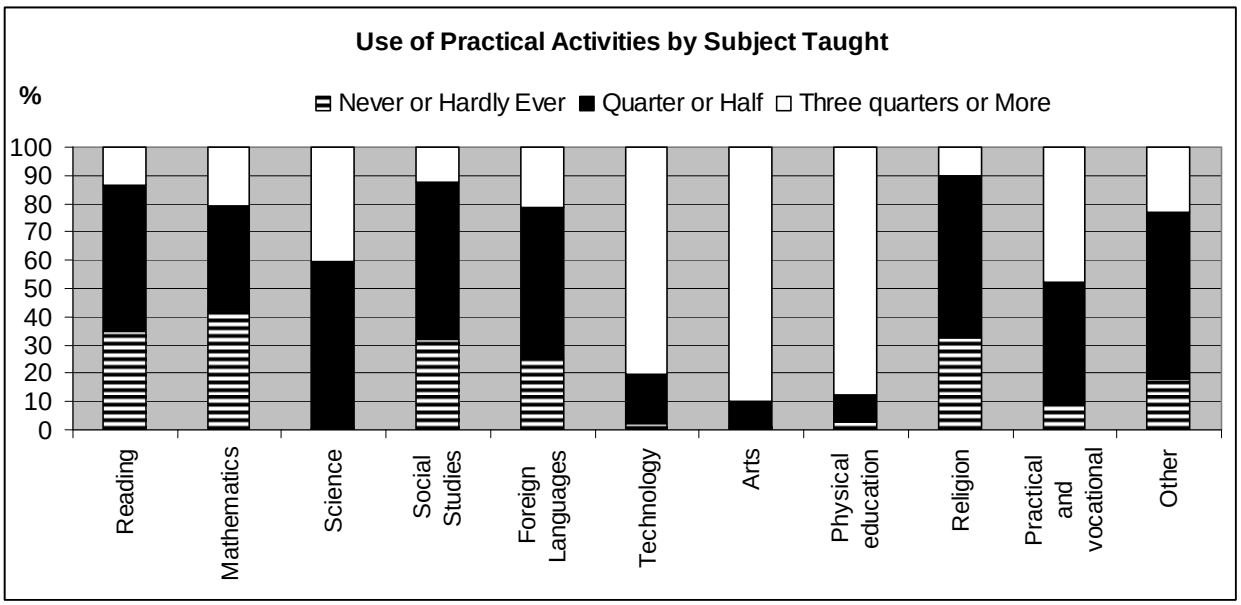
Figure 4.2. Ipsative Mean Scores for Structuring Practices, Student-Oriented Practices, and Enhanced Activities, Among Lower Secondary Teachers – Ireland and Comparison Countries



Source: OECD (2009a), Figure 4.4.

In Ireland, teachers were also asked how often they engage students in practical activities. Over one-fifth of teachers report that they never or hardly ever engage students in practical activities (23%) and a further two-fifths report engaging students in practical activities in a quarter or half of lessons (45%). One-third of teachers (33%) indicated that they engage students in practical activities in three-quarters or more of lessons. Differences in frequency of using practical activities are found across subjects, with teachers of Technology, Arts and Physical Education reporting most frequent use of practical activities (Figure 4.3; Table C4.3, Appendix C). Teachers of Reading, Mathematics, Social Studies and Religion use practical activities on an infrequent basis.

Figure 4.3. Percentages of Teachers in Ireland who Report Using Practical Activities by Subject Taught



Variance in Instructional Practices

As in the case of teacher beliefs, it is possible to examine the extent to which teachers' use of instructional practices varies between countries and between schools, within countries (Box 4.1). Between 17 and 34% of the total variance in instructional practices is accounted for by country-level factors (OECD, 2009a, Figure 4.6). Regarding the effect of school-level variables, the impact on teachers' instructional practices is quite small; on average across TALIS countries, between-school variance is about 5% of the total variance.

In Ireland, between-school variance accounts for 4% or less of the total variance in each of the instructional practices. As the majority of variance (96% or more) in teachers' use of instructional practices is between teachers within schools, it can reasonably be assumed that school-level factors play a relatively minor role in shaping teachers' instructional practices in Ireland.

Association between Teaching Practices and Other Variables

This section examines how the relative importance assigned to the three types of teaching practice differs according to teacher demographic factors, teacher beliefs about instruction, and teachers' participation in professional development activities. The association between the classroom context and the importance assigned to the three types of teaching practice is also examined.

Teacher Demographic Factors

In Ireland, and in more than half of TALIS countries, female teachers are significantly more likely to use structuring practices than male teachers (Table 4.5). Maths or Science teachers and Humanities teachers in Ireland are also more likely to use structuring practices than teachers of other subjects[4]. These relationships also hold in more than half of TALIS countries (OECD, 2009a, Table 4.3).

In Ireland, years of teaching experience is negatively associated with the use of structuring practices. However, although more experienced teachers are statistically significantly less likely to employ structuring practices, the decrease associated with each extra year's teaching experience is so small as to be of little substantive importance. In general, across TALIS countries, the opposite is the case: in more than half of TALIS countries, greater teaching experience is associated with greater use of structuring practices.

Table 4.5. Multiple Regression of Teachers' Use of Structuring Teaching Practices – Ireland

	Coeff.	SE	t	p
Gender (Female – Male)	0.371	(0.037)	9.995	**<.001**
Subject Taught (Math/Science teacher – Other)	0.318	(0.055)	5.749	**<.001**
Subject Taught (Humanities teacher – Other)	0.305	(0.037)	8.260	**<.001**
Years teaching experience	-0.004	(0.002)	-2.639	**0.010**
Teacher qualifications (Masters or above – Bachelor or below)	0.039	(0.047)	0.828	0.409

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.105.

Female teachers in Ireland are also more likely than male teachers to use student-oriented teaching practices (Table 4.6). Maths or science teachers and humanities teachers in Ireland are significantly less likely than teachers of other subjects to use student-oriented practices. These relationships hold in more than half of TALIS countries.

In Ireland, teaching experience is negatively associated with the use of student-oriented practices, whereas in TALIS countries generally, there is a positive association between the two. Again, the decrease, in Ireland, in use of student-oriented practices associated with each increase in years' experience is very small.

[4]The category 'Maths or Science' includes only teachers of mathematics or science. Humanities is coded as 1 for teachers of reading, writing and literature (including English or Irish); social studies; foreign languages or religion; and 0 otherwise. 'Other' subjects are: technology; arts; physical education; and practical subjects, such as Business Studies, Typewriting and Home Economics.

In Ireland, and in over half of TALIS countries, Maths or Science teachers and Humanities teachers are significantly less likely than teachers of other subjects to use enhanced teaching activities (Table 4.7 and OECD, 2009a, Table 4.3). In Ireland, and generally across TALIS countries, teaching experience is negatively associated with the use of enhanced activities.

Table 4.6. Multiple Regression of Teachers' Use of Student-Oriented Teaching Practices – Ireland

	Coeff.	(SE)	t	p
Gender (Female – Male)	0.144	(0.037)	3.931	**<.001**
Subject Taught (Math/Science teacher – Other)	-0.303	(0.037)	-8.247	**<.001**
Subject Taught (Humanities teacher – Other)	-0.222	(0.037)	-5.984	**<.001**
Years teaching experience	-0.009	(0.002)	-5.793	**<.001**
Teacher qualifications (Masters or above – Bachelor or below)	0.033	(0.048)	0.701	0.485

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.058.

Table 4.7. Multiple Regression of Teachers' Use of Enhanced Teaching Activities - Ireland

	Coeff.	SE	t	p
Gender (Female – Male)	-0.026	(0.023)	-1.141	0.257
Subject Taught (Math/Science teacher – Other)	-0.381	(0.026)	-14.566	**<.001**
Subject Taught (Humanities teacher – Other)	-0.096	(0.029)	-3.344	**0.001**
Years teaching experience	-0.004	(0.001)	-4.378	**<.001**
Teacher qualifications (Masters or above – Bachelor or below)	0.016	(0.025)	0.641	0.523

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.103.

Aside from demographic factors, other teacher background characteristics could play a role in influencing the types of instructional approaches teachers employ. These include teachers' beliefs about instruction (see e.g., Ogan-Bekiroglu & Akkoç, 2009), or their participation in professional development (see e.g., Guskey, 1986). Results of some multiple regressions examining the associations between teachers' beliefs and instructional practices, between professional development and instructional practices, and between classroom context and instructional practices, are presented in the following sections.

Teacher Beliefs about Instruction

While TALIS permits an examination of the associations between teachers' beliefs and instructional practices, it is worth noting that the relationship between the two is likely to be complex. Various factors, including the physical environment, administrative duties, institutional constraints and behaviour problems of students, can prevent teachers from putting their beliefs into practice (see e.g., King, Shumow & Lietz, 2001). Some researchers conclude that there is no direct link between the two (e.g., Levitt, 2001, Wilcox-Herzog, 2002, cited in OECD, 2009a). The finding in TALIS of weak to moderate correlations between the two types of teachers beliefs (constructivist and direct

transmission), further complicates attempts to understand the association between beliefs and practices.

Multiple regression results show that in Ireland, and in most TALIS countries, teachers who hold stronger direct transmission beliefs more frequently engage in structuring teaching practices, after controlling for teacher gender, years of experience, level of education and subject taught in the target class. Similarly, in Ireland and in the majority of TALIS countries, teachers who hold stronger constructivist beliefs about instruction engage more frequently in student-oriented teaching practices and/or enhanced activities (OECD, 2009a, Table 4.9). Note, however, that stronger teacher beliefs are associated with small increases in frequency of using the various instructional practices (e.g. in Ireland, a one-unit increase in teacher beliefs corresponds to approximately a one-tenth of a standard deviation increase in frequency of using the various instructional practices, OECD, 2009a, Table 4.9a - web only).

Professional Development Activities

In Ireland, and in many other TALIS countries, after controlling for gender, subject taught in the target class, experience and level of education, teachers who report participating in networks also report engaging more frequently in structuring teaching practices (OECD, 2009a, Table 4.7). It is possible that the association found between participation in networks and use of structuring practices may be the result of a greater awareness of differences in instructional practices on the part of teachers who participate in networks. Thus, the significant effect seen here may not be indicative of a higher frequency of using structuring practices, but rather a greater awareness of them (OECD, 2009a).

Other aspects of professional development, such as number of days of professional development, participation in workshops and courses, and participation in mentoring activities, are not significantly associated with the use of structuring teaching practices in Ireland, although significant associations are found in many other TALIS countries.

Results of a multiple regression show a positive and significant association, in Ireland, between the use of student-oriented teaching practices and number of days of professional development. The use of student-oriented teaching practices in Ireland is also significantly associated with participation in mentoring activities (OECD, 2009a, Table 4.7).

In Ireland, only participation in mentoring activities is significantly associated with the use of enhanced activities; teachers who participate in mentoring activities report more frequent use of enhanced activities (OECD, 2009a, Table 4.7). Given that relatively few teachers in Ireland participate in mentoring activities, and given the nature of the TALIS survey, it is important not to attempt to draw causal links between participation in mentoring and use of enhanced activities (or student-oriented practices); it may be that teachers who participate in mentoring are highly motivated and also employ innovative teaching methods.

Classroom Context

An examination of the relationship between the classroom context and teaching practices shows that, in Ireland, structuring teaching practices and student-oriented teaching

practices are negatively associated with class-size, after controlling for teacher gender, years of experience, level of education and subject taught in the target class (OECD, 2009a, Table 4.4). Thus, when teaching larger classes, teachers in Ireland are significantly less likely to report using structuring practices or student-oriented practices.

Class size is not significantly associated with the use of enhanced activities in Ireland. Neither the average ability of students in the class, nor the percentage of students with a mother tongue different from the language of instruction, are significantly related to the use of any of the three instructional practices in Ireland.

Co-operation Among Teachers

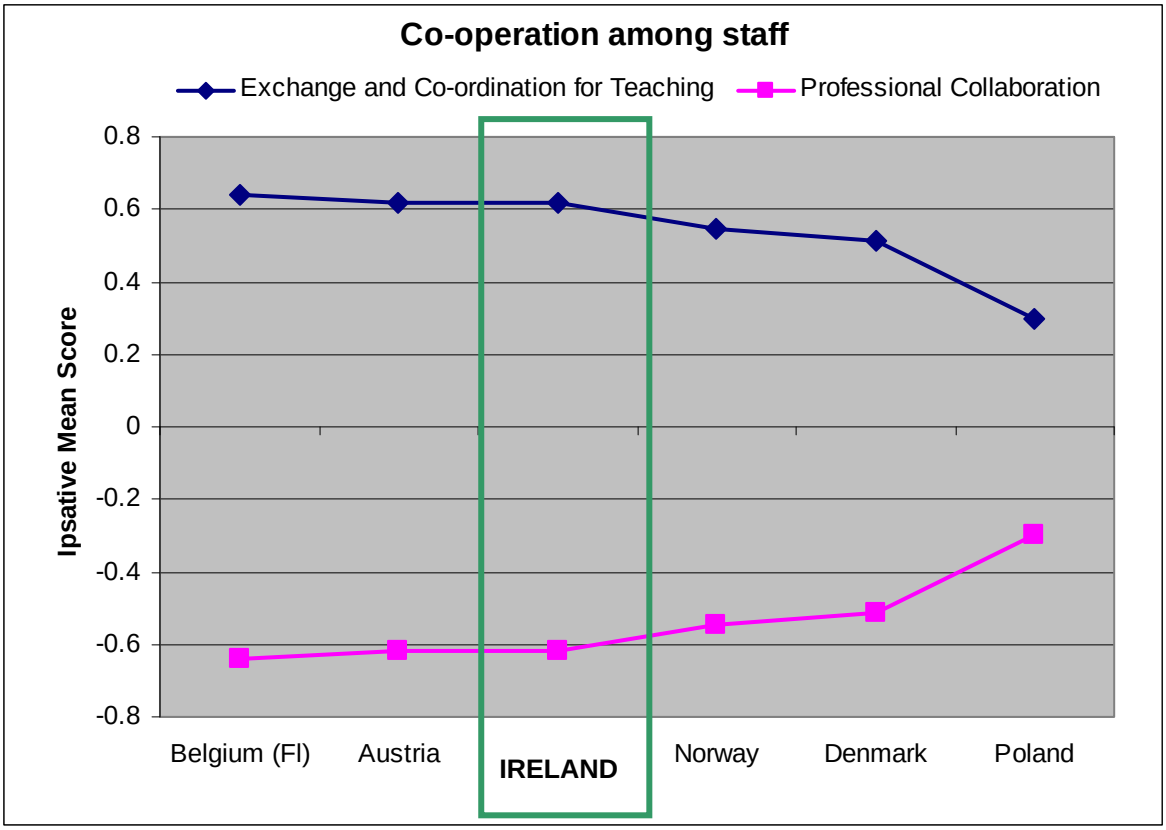
TALIS sought to describe the nature of co-operation among teachers in schools. Based on the reported frequency of teachers' engagement in a range of co-operative activities, two scales were developed: exchange and co-ordination for teaching, and professional collaboration. The constituent items of each of these scales are given in Table 4.8, along with the percentages of teachers who report engaging in such practices or being involved on a monthly or weekly basis. The percentages of teachers who engage less frequently in co-operative activities are given in Table C4.4 (Appendix C).

Based on ipsative mean scores (see Box 4.2), Figure 4.4 indicates that exchange and coordination for teaching was engaged in relatively more often by teachers across all comparison countries than the more complex professional collaboration. There are somewhat larger gaps between the two types of co-operation in Belgium (Fl), Austria and Ireland, indicating a relatively stronger emphasis on exchange and co-ordination for teaching, compared with professional collaboration, in these countries.

Table 4.8. Percentages of Teachers in Ireland Who Report Being Involved, on a Monthly or Weekly Basis, in Various Teacher Co-operative Activities

	%	(SE)
Index of Exchange and Co-ordination for Teaching		
Discuss and decide on the selection of instructional media, e.g., textbooks, exercise books	3.4	(0.49)
Exchange teaching materials with colleagues	44.5	(1.21)
Attend year meetings for the age group I teach	8.9	(0.91)
Ensure common standards in evaluations for assessing student progress	11.7	(0.61)
Engage in discussion about the learning development of specific students	36.8	(1.23)
Index of Professional Collaboration		
Teach jointly as a team in the same class	13.7	(1.22)
Take part in professional learning activities, e.g., year or subject area meetings	11.5	(0.87)
Observe other teachers' classes and provide feedback	1.5	(0.29)
Engage in joint activities across different classes and age groups, e.g., projects	4.6	(0.49)
Discuss and co-ordinate homework practice across subjects	5.5	(0.60)

Figure 4.4. Ipsative Mean Scores for Exchange and Co-ordination for Teaching, and Professional Collaboration – Ireland and Selected Comparison Countries



Source: OECD (2009a), Figure 4.7.

Variance in Teacher Co-operation Scales

Across TALIS countries, about half of the variance in teacher co-operation is at country level, pointing towards the role of system-level factors in contributing to levels of teacher co-operation (OECD, 2009a, Figure 4.8). Under 10% of variance is between-schools, with the remainder accounted for by differences between teachers within schools.

In Ireland, between-school variance accounts for over 10% of the total variance in the teacher co-operation indices (12.8% of the total variance in exchange and co-ordination for teaching, and 13.9% of the total variance in professional collaboration). It is not surprising that between-school variance is of greater importance on these indices than on those presented previously in this chapter; i.e., that a somewhat higher level of agreement is found between teachers within a school on the extent to which they co-operate, than on measures related to individual beliefs or practices.

Association between Teacher Co-operation and Other Variables

Of the teacher demographic factors examined (gender, subject taught, teaching experience and teacher qualifications), only teacher gender is significantly associated with teacher co-operation in Ireland (Tables C4.5, C4.6, Appendix C). Females are more likely than males to engage in both types of co-operative activities. This is also the case in more than half of TALIS countries. In many countries, but not in Ireland, teaching experience is

also significantly associated with participation in co-operative activities (OECD, 2009a, Table 4.3).

In Ireland, teachers who report participating in courses and workshops, networks and/or mentoring activities, also report more frequent engagement in both types of co-operative activity (OECD, 2009a, Table 4.8). Professional collaboration, but not exchange and co-ordination, is positively and significantly associated with the number of days of professional development undertaken by a teacher (recall that the average number of professional days taken by teachers in Ireland is quite low by TALIS standards [Table 3.1] and the level of professional collaboration in Ireland is also comparatively low).

It is not possible to determine whether more motivated teachers undertake professional development and also engage in co-operative activities as a result of their greater motivation, or whether professional development may in fact help foster a co-operative culture within schools.

Classroom Environment

Classroom climate has been shown to be significantly associated with student achievement on PISA in Ireland (see Shiel *et al.*, 2001; Cosgrove *et al.*, 2005), and elsewhere (Klieme & Rakoczy, 2003 and Rakoczy *et al.*, 2007, cited in OECD, 2009a). It has also been shown to be of critical importance in the retention of first-year teachers, with first year teachers much more likely to leave teaching, or to switch schools, when they perceive serious behavioural problems at their schools (Kukla-Acevedo, 2009).

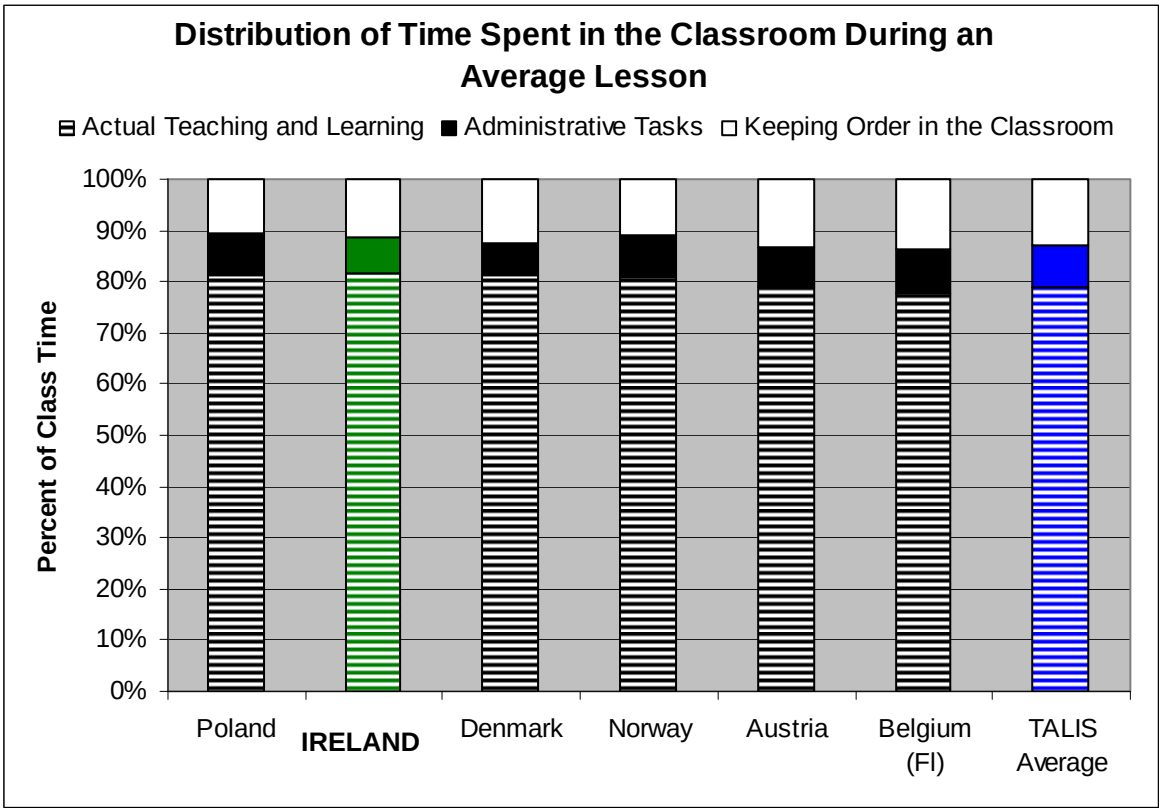
Classroom environment is measured in TALIS in two ways; firstly, by looking at the percentage of time teachers spend on teaching and learning, administrative activities, and maintaining discipline in a specific class; and secondly, by asking teachers to indicate their level of agreement with a series of statements about the disciplinary climate in the same class. A positive association may be expected between the amount of time spent on teaching and learning and teachers' assessment of the disciplinary climate, as if students are generally well-behaved, a greater proportion of time should be spent on teaching and learning in the classroom. An advantage of the disciplinary climate measure in TALIS is that it refers to the climate in specific classrooms, whereas in PISA, this is not possible since students are distributed over many classes, and hence the variable must be aggregated to the school level.

Time Spent Teaching

Teachers in TALIS were asked to indicate the proportion of class time (for a specific lesson) that was spent on administrative tasks, keeping order in the classroom (maintaining discipline), and actual teaching and learning (i.e., time on task). On average across TALIS countries, teachers reported that 79% of class time is spent on teaching and learning (Figure 4.5). The average for teachers in Ireland (81%) is marginally above this, and about the same as in the other comparison countries, except Belgium (Fl.) (78%).

The percentages of time spent by teachers in Irish classrooms on administrative tasks (7%) and keeping order (11%) are just below the corresponding TALIS country averages (8% and 13% respectively). Allocation of time to administrative tasks is marginally lower in Denmark (6%) than in Ireland, while teachers in Austria spend proportionately more time on keeping order (13%) compared with Ireland.

Figure 4.5. Proportions of Class Time Spent on Administrative Tasks, Keeping Order in the Classroom, and Actual Teaching and Learning, in Ireland, Selected Comparison Countries and on Average in TALIS Countries



Source: OECD (2009a), Figure 4.9.

Classroom Disciplinary Climate

In addition to the percentages of time spent on actual teaching and learning in a particular class, teachers were asked to indicate their level of agreement with a series of statements linked to the disciplinary climate in the class. The index of classroom climate is derived from responses on four questionnaire items. These are given in Table 4.9, along with the percentages of teachers who agree or strongly agree with each statement, in Ireland and on average across TALIS countries.

Fewer teachers in Ireland agree or strongly agree with the statements on classroom climate than on average across TALIS countries (Table 4.9), indicating relatively less disruption in their classes. Just under one-fifth of teachers in Ireland agree or strongly agree that they wait a long time for students to quieten down (TALIS average 29%). Although the majority of Irish teachers believe that students take care to create a pleasant

learning environment (69%), the percentage is marginally lower than the corresponding TALIS average (72%). About one-quarter of Irish teachers believe that quite a lot of time is lost because of interruption (26%, TALIS average 29%) and just over one-fifth agree or strongly agree that there is much noise in the classroom (22%, TALIS average 24%).

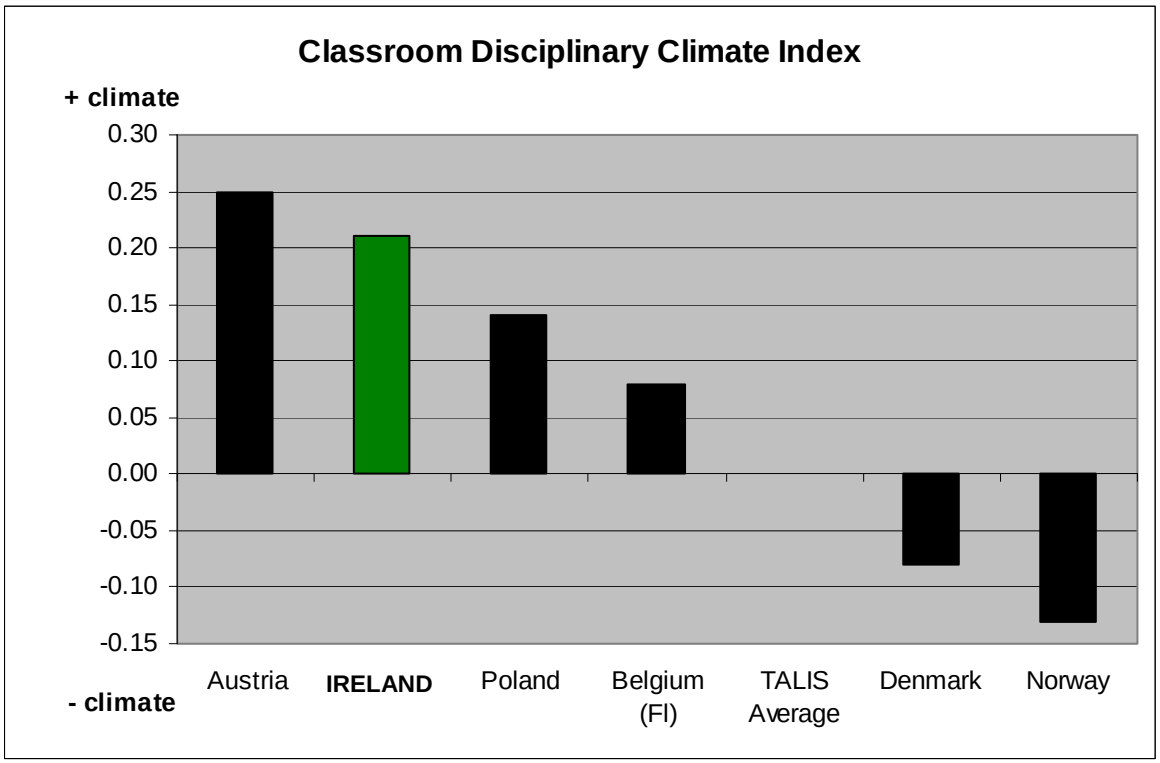
Table 4.9. Percentages of Teachers who Agree or Strongly Agree with Each Item in the Classroom Disciplinary Climate Scale – Ireland and TALIS Average

	Ireland		TALIS Avg.[a]
	%	(SE)	%
When the lesson begins, I have to wait quite a long time for students to quieten down.	19.7	(1.26)	28.7
Students in this class take care to create a pleasant learning atmosphere.	68.9	(1.21)	72.2
I lose quite a lot of time because of students interrupting the lesson.	25.5	(1.32)	29.1
There is much noise in this classroom.	21.6	(1.11)	24.1

[a]Standard errors cannot be computed due to omission of Iceland from TALIS database.

Figure 4.6 shows that the mean scores for classroom disciplinary climate (composite score based on factor analysis) in Austria, Ireland, Poland and Belgium (Fl.) are above the corresponding TALIS average. Mean scores in Denmark and Norway are below the TALIS average.

Figure 4.6. Standardised Mean Scores for Classroom Disciplinary Climate – Ireland, Selected Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 7.3.

Association Between Classroom Climate and Other Variables

Across all TALIS countries, a positive association is found between classroom disciplinary climate and the percentage of time spent on teaching and learning (OECD, 2009a, Table 4.2), although the magnitude of the correlation varies across comparison countries (see Table 4.10), from 0.46 in Poland to 0.65 in Ireland.

A correlation of 0.63 (SE 0.016) is found in Ireland between the classroom climate item on losing time because of student interruptions and the percentage of time spent keeping order. It may be considered somewhat surprising that this correlation is not stronger.

Table 4.10. Correlation between Time on Task and Classroom Disciplinary Climate

	Correlation coefficient (r_{xy})	(SE)
Austria	0.56*	(0.014)
Belgium (Fl.)	0.54*	(0.018)
Denmark	0.57*	(0.024)
Ireland	0.65*	(0.015)
Norway	0.56*	(0.018)
Poland	0.46*	(0.024)

Source: OECD (2009a), Table 4.2.
* Statistically significant, p<0.01.

Table 4.11 shows how mean scores for classroom disciplinary climate vary by school size, type, disadvantaged status and gender composition, in Ireland. Differences in classroom climate between small, medium and large schools are not statistically significant (see Table C4.7, Appendix C). Teachers in secondary schools rate the classroom disciplinary climate as significantly higher than teachers in community/comprehensive or vocational schools. The mean score for classroom disciplinary climate in schools not designated as disadvantaged is significantly higher (by about one-third of a standard deviation) than in designated disadvantaged schools. Single-sex schools have a significantly higher mean score for classroom disciplinary climate (by about one-quarter of a standard deviation) than mixed-sex schools.

Classroom climate in Ireland is rated more positively by female teachers, Maths or Science teachers, Humanities teachers and teachers with more years of teaching experience (Table 4.12). It is also the case in more than half of TALIS countries that maths or science teachers, and teachers with greater experience, are significantly more likely to report better levels of classroom climate. A more complex model of classroom climate which takes into account school- and teacher-level variables is presented in Chapter 7.

Table 4.11. Mean Scores on the Classroom Disciplinary Climate Index by School Size, School Type, Designated Disadvantaged Status and School Gender Composition – Ireland

	Mean	(SE)
School Size		
Small (<= 120 Junior Cycle Students)	0.07	(0.122)
Medium (121 – 240 Junior Cycle Students)	0.20	(0.062)
Large (> 240 Junior Cycle Students)	0.24	(0.040)
School Type		
Community or Comprehensive	0.01	(0.088)
Secondary	0.38	(0.033)
Vocational	0.00	(0.074)
Designated Disadvantaged		
Designated	-0.03	(0.070)
Not designated	0.34	(0.033)
School Gender Composition		
All Male	0.33	(0.070)
All Female	0.38	(0.057)
Mixed-Sex	0.12	(0.044)

Note: Significance of mean score differences given in Table C4.7 (Appendix C).

Table 4.12. Multiple Regression of Classroom Climate – Ireland

	Coeff.	(SE)	t	p
Gender (Female – Male)	0.134	(0.050)	2.684	**0.009**
Subject Taught (Math/Science teacher – Other)	0.189	(0.063)	3.029	**0.003**
Subject Taught (Humanities teacher – Other)	0.160	(0.060)	2.664	**0.009**
Years teaching experience	0.008	(0.002)	3.163	**0.002**
Teacher qualifications (Masters or above – Bachelor or below)	0.058	(0.062)	0.936	0.352

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.015.

In Chapter 2 (Table 2.17a), it was noted that 54% of teachers in Ireland work in schools where the principal reports that classroom disturbances hinder instruction ‘a lot’ or ‘to some extent’. This percentage appears quite high, given the positive view of classroom climate in Ireland presented in Figure 4.6, and the relatively low percentage of time which teachers report spending on maintaining order (11%). In Estonia and Mexico (not shown in Figure 4.6), high percentages of teachers work in schools where the principal also considered classroom disturbances to hinder instruction ‘a lot’ or ‘to some extent’ (71% and 72%, respectively), but classroom climate in both countries is rated quite positively by the teachers (0.45 and 0.25, respectively). Indeed, the classroom disciplinary climate rating for Estonia is the highest across all TALIS countries. The percentage of time spent on keeping order in these countries is similar to that in Ireland (Estonia: 9.1%; Mexico: 13.3%).

It is therefore interesting to consider why teachers view classroom climate in a positive light while principals consider classroom disturbances to be a relatively widespread problem. Table 4.13 shows that, in Ireland, the mean classroom climate score decreases as principals' ratings of the impact of classroom disturbances increase. Thus, teachers, on average, view classroom climate less positively when principals perceive disturbances to make a bigger impact on instruction.

Also, the standard deviation of the classroom climate index is wider in schools where principals report that disturbances hinder instruction 'to some extent' or 'a lot', than in schools where disturbances are not deemed to cause a problem. Therefore, there is more variability in teachers' responses to the classroom climate items in these schools. Given that principals were commenting generally on the school, it is not surprising that in schools where there is greater variability in classroom climate, principals would report that disturbances hinder instruction. It may also be the case that in schools where classroom climate is reasonably good, principals consider any deviations to be quite serious.

Table 4.13. Mean Scores on the Classroom Disciplinary Climate Index Categorised by Extent to which Principals Believe Learning is Hindered by Classroom Disturbances – Ireland

Learning is hindered by classroom disturbances	Teachers*		Classroom disciplinary climate index			
	%	(SE)	Mean	(SE)	SD	SD_SE
Not at all	3.86	(1.86)	0.68	(0.101)	0.852	0.08
Very little	42.83	(4.66)	0.35	(0.050)	0.995	0.03
To some extent	41.30	(4.58)	0.10	(0.074)	1.122	0.03
A lot	12.01	(3.49)	-0.01	(0.143)	1.171	0.06

*% of teachers based on principals' responses

Teacher-Student Relations

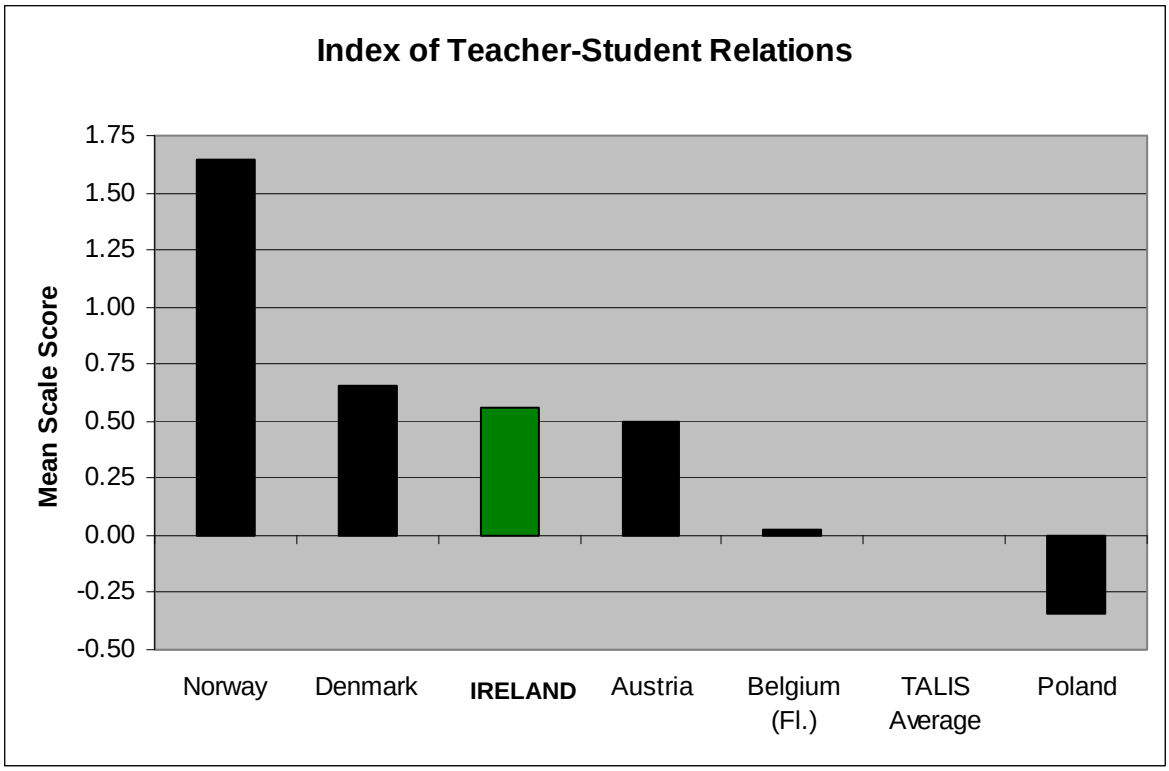
In addition to being asked about the disciplinary climate in a specific Junior Cycle class, TALIS also looked at teachers' views of the school climate more generally. Teachers were asked to indicate, on a 4-point scale, their agreement with four statements, from which an index of teacher-student relations was derived. The items are given in Table 4.14, along with the percentages of teachers in Ireland who agree or strongly agree with each of the statements. TALIS averages are not available for these items.

Table 4.14. Percentages of Teachers in Ireland Who Agree or Strongly Agree with Each Statement in the Teacher-Student Relations Scale

	%	(SE)
In this school, teachers and students usually get on well with each other.	97.0	0.48
Most teachers in this school believe that students' well-being is important.	98.2	0.38
Most teachers in this school are interested in what students have to say.	92.0	0.78
If a student from this school needs extra assistance, the school provides it.	92.8	0.77

Figure 4.7 shows that teacher-student relations are stronger in Ireland than on average across TALIS countries[5]. Among the 23 TALIS countries, Norway, Denmark, Ireland and Austria emerge as countries where teacher-student relations are particularly good. Teachers in Norway report exceptionally strong teacher-student relations; their mean score is the highest of any country in TALIS. For three of the four statements, the percentage of teachers in Norway who 'strongly agree' with each of the statements is greater than that in Ireland. Teachers in Ireland are more likely to 'agree' than to 'strongly agree' with each of the statements.

Figure 4.7. Index of Teacher-Student Relations – Mean Scores for Ireland, Selected Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 4.19 - web only.

Variance in Teacher-Student Relations

Across TALIS countries, about 25% of variance in teacher-student relations is accounted for by differences between countries, 10% by differences between schools, and the remainder by differences between teachers within schools. In Ireland, about 12% of variance in teacher-student relations is between schools (see Table C4.12, Appendix C, for all estimates of between-school variance). The fact that the remaining 88% of variance in Ireland is between teachers within schools shows that the perception of teacher-student relations can differ markedly among teachers within schools.

[5] Teacher-student relations was identified by the OECD (2009a) as having at least partial scalar invariance. Therefore, mean scores can be safely compared across countries (see Appendix C).

Associations between Teacher-Student Relations and Other Variables

It might be expected that the quality of teacher-student relations would be associated with both individual teacher characteristics and with aspects of the school context. These associations are examined in the following sections. A detailed multi-level model of teacher-student relations for Ireland is not presented here, as the index of teacher-student relations is used as an independent variable in the model of classroom climate in Chapter 7. Results of a multi-level model of teacher-student relations, outlined in OECD (2009a), are discussed briefly below. It is the case with a number of variables in TALIS that they could be used as dependent or independent variables, depending on the research question of interest.

Teacher Demographic Factors

In more than half of TALIS countries, no significant associations were found between teacher-student relations and teacher gender, subject taught, experience or level of qualification (OECD, 2009a, Table 4.3). However, in Ireland, more experienced teachers and teachers with a Masters degree (or higher) are significantly more likely to report better teacher-student relations in their schools (Table 4.15). As before, the increase associated with each extra year's teaching experience is very small.

Table 4.15. Multiple Regression of Teacher-Student Relations – Ireland

	Coeff.	(SE)	t	p
Gender (Female – Male)	0.110	(0.063)	1.741	0.085
Subject Taught (Math/Science teacher – Other)	-0.095	(0.061)	-1.545	0.126
Subject Taught (Humanities teacher – Other)	0.045	(0.057)	0.777	0.439
Years teaching experience	0.005	(0.002)	2.168	**0.033**
Teacher qualifications (Masters or above – Bachelor or below)	0.141	(0.062)	2.271	**0.025**

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.010.

School Characteristics

Table 4.16 presents the mean score on the teacher-student relations index by school size, type, disadvantaged status and gender composition. Confidence intervals for the differences between groups are given in Table C4.8 (Appendix C). Note, that although significant differences may emerge in bivariate analyses, many such differences might no longer be significant if examined within a multiple regression.

The mean score for teacher-student relations in small schools is significantly higher than the score for large schools. Teacher-student relations in small schools are also better than in medium-sized schools, but not significantly so.

There are no significant differences in teacher-student relations between the different school types or between designated disadvantaged and non-designated disadvantaged schools. Teacher-student relations are poorer, on average, in all-male schools than in all-female schools or in mixed-sex schools; only the former is statistically significant (see

Table C4.8, Appendix C). Teacher-student relations in all-female schools are significantly better than in mixed-sex schools.

Table 4.16. Index of Teacher-Student Relations by School Size, School Type, Designated Disadvantaged Status and School Gender Composition – Ireland

	Mean	(SE)
School Size		
Small (<= 120 Junior Cycle Students)	0.74	(0.059)
Medium (121 – 240 Junior Cycle Students)	0.56	(0.064)
Large (> 240 Junior Cycle Students)	0.54	(0.049)
School Type		
Community or Comprehensive	0.59	(0.078)
Secondary	0.59	(0.056)
Vocational	0.48	(0.054)
Disadvantaged Status		
Designated as disadvantaged	0.48	(0.046)
Not designated as disadvantaged	0.61	(0.050)
School Gender Composition		
All Male	0.36	(0.120)
All Female	0.82	(0.093)
Mixed-Sex	0.51	(0.039)

Note: Significance of mean score differences given in Table C4.8 (Appendix C).

The OECD (2009a) carried out a series of multi-level regressions to examine, for each TALIS country, the significance of a number of school context variables (school location, school management, school size, social background of students and average ability of students), on teacher-student relations, after controlling for various teacher background variables (gender, subject taught, years teaching experience and teacher qualifications). Results of the multi-level regression for Ireland show that teachers working in cities report better teacher-student relations than teachers working outside of cities, after controlling for the teacher background variables. However, teacher-student relations in Ireland are not significantly related to whether the school is private or public[6], the school size, the social background of the students[7], or the average ability of the students[8] (OECD, 2009a, Table 4.5), after controlling for background variables.

Results of a multiple regression at the teacher level show that positive teacher-student relations in Ireland are associated with the degree to which exchange and co-ordination for

[6] The OECD uses the term 'public' to refer to community, comprehensive and vocational schools in Ireland and the term 'private' to refer to voluntary secondary schools.
[7] Education level of students' parents aggregated to the school level.
[8] Teachers' estimation of the average ability of students in their class, relative to students of the same grade more generally, aggregated to the school level.

teaching takes place in the school: the more frequently teachers report engaging in exchange and co-ordination for teaching, the better they report teacher-student relations to be, after controlling for teacher gender, years of experience, level of education and subject taught in the target class, private versus public management of the school, size of the community where the school is located, average social status of the student and average ability of the students estimated by the teachers (OECD, 2009a, Table 4.11). Professional collaboration is not significantly associated with teacher-student relations in Ireland.

Self-Efficacy

TALIS provides information on the self-efficacy of lower-secondary teachers. Teachers were asked to indicate their level of agreement with four statements related to self-efficacy, from which a self-efficacy scale was derived with a TALIS country mean of zero and standard deviation of one. The statements, along with the percentages of teachers who agree or strongly agree with each in Ireland and on average across TALIS countries, are presented in Table 4.17.

Table 4.17. Percentages of Teachers who Agree or Strongly Agree with Each Item in the Teacher Self-Efficacy Scale – Ireland and TALIS Country Average

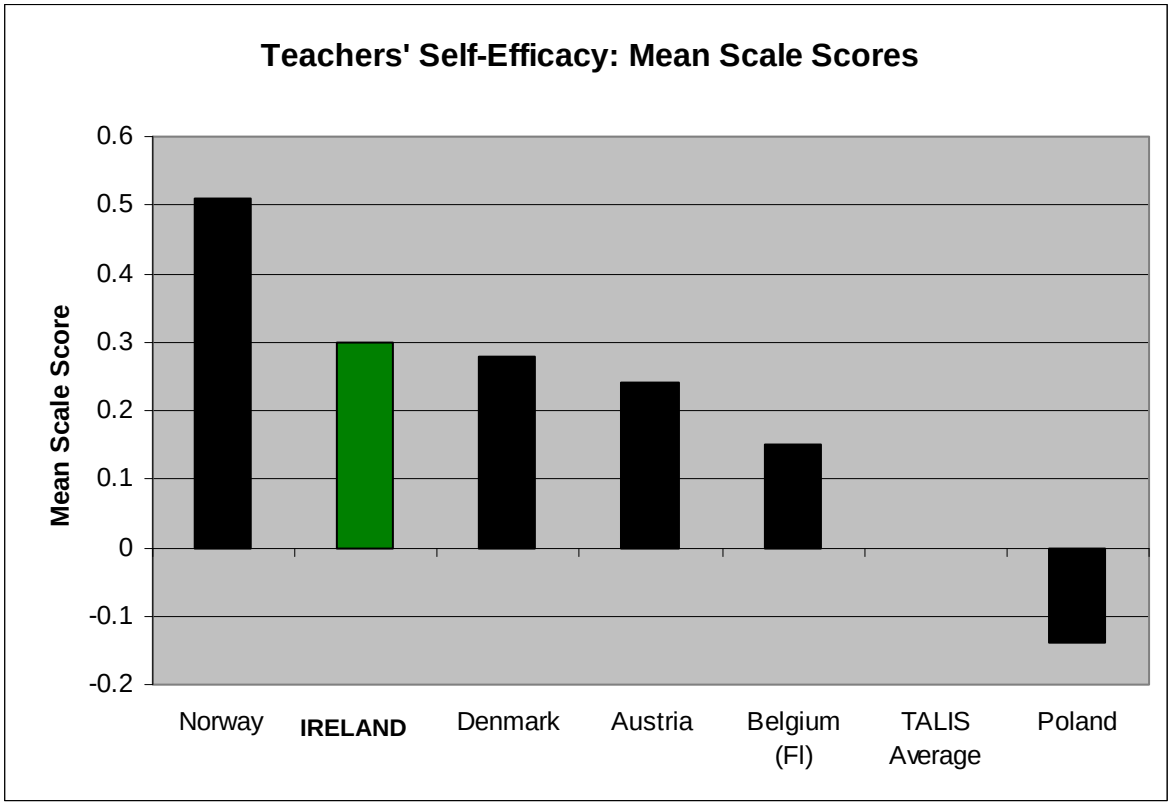
	Ireland		TALIS Avg.[a]
	%	(SE)	%
I feel that I am making a significant education difference in the lives of my students.	95.9	0.43	92.3
If I try really hard, I can make progress with even the most difficult and unmotivated students.	85.9	0.89	82.7
I am successful with the students in my class.	98.0	0.37	94.5
I usually know how to get through to students (e.g., motivate them to learn).	95.2	0.42	95.8

[a]Standard errors cannot be computed due to omission of Iceland from TALIS database.

Figure 4.8 shows that teachers in Norway, Ireland, Denmark, Austria and Belgium (Fl.) have mean self-efficacy scores above the corresponding TALIS average, while the self-efficacy of teachers in Poland is below it. The average self-efficacy of teachers in Norway is the highest across TALIS countries[9].

[9] As with teacher-student relations, the self-efficacy scale was identified by the OECD (2009a) as having at least partial scalar invariance with the result that mean scores can be safely compared across countries (see Appendix C).

Figure 4.8. Mean Scores on Teacher Self-Efficacy Scale – Ireland, Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 7.2.

Association between Self-Efficacy and Other Variables

A detailed analysis of the association between self-efficacy and other variables is presented in Chapter 7, where the simultaneous effects of different variables on self-efficacy are examined. In this section, descriptive statistics are provided (Table 4.18), showing the mean self-efficacy scores of teachers in Ireland, by school size, type, disadvantaged status and gender composition. Confidence intervals for mean score differences are presented in Table C4.9 (Appendix C).

No significant differences in self-efficacy emerge between teachers in small, medium or large schools (Table C4.9, Appendix C). Teachers in secondary schools have significantly higher mean scores for self-efficacy than teachers in community/comprehensive or vocational schools. The self-efficacy of teachers in designated disadvantaged schools is significantly lower (by about one-quarter of a standard deviation) than that of teachers in schools not designated as disadvantaged. Teachers in mixed-sex schools have a lower mean self-efficacy score than teachers in single-sex schools but the only statistically significant difference is between teachers in all-female schools and teachers in mixed-sex schools.

Table 4.18. Mean Scores of Teachers in Ireland on the Self-Efficacy Scale, by School Type, Designated Disadvantaged Status, School Size and School Gender Composition

	Mean	(SE)
School Size		
Small (<= 120 Junior Cycle Students)	0.26	(0.072)
Medium (121 – 240 Junior Cycle Students)	0.36	(0.039)
Large (> 240 Junior Cycle Students)	0.27	(0.037)
School Type		
Community or Comprehensive	0.15	(0.048)
Secondary	0.39	(0.036)
Vocational	0.20	(0.057)
Disadvantaged Status		
Designated as disadvantaged	0.17	(0.041)
Not designated as disadvantaged	0.37	(0.034)
School Gender Composition		
All Male	0.31	(0.050)
All Female	0.44	(0.068)
Mixed-Sex	0.24	(0.033)

Note: Significance of mean score differences given in Table C4.9 (Appendix C).

In a multiple regression of teacher self-efficacy with teacher background characteristics as independent variables, teachers' self-efficacy in Ireland is found not to be significantly related to gender, subject taught, years of teaching experience or level of qualification (Table C4.10, Appendix C). This contrasts with the situation in many TALIS countries, where teachers of mathematics or science report lower levels of self-efficacy and more experienced teachers show significantly higher levels of self-efficacy (OECD, 2009a, Table 4.3). A more detailed regression, using self-efficacy as a dependent variable, is presented in Chapter 7.

Job Satisfaction

Teachers in TALIS were asked to indicate their level of agreement with a single statement related to job satisfaction: 'All in all, I am satisfied with my job'. Table 4.19 shows that in Ireland and comparison countries, approximately 90% or more of teachers agree or strongly agree that they are satisfied with their jobs.

Table 4.19. Percentages of Teachers Who Agree, or Strongly Agree That, All In All, They are Satisfied with their Jobs – Ireland and Comparison Countries

	%	(SE)
Austria	93.2	(0.46)
Belgium (Fl.)	94.6	(0.42)
Denmark	88.5	(1.00)
Ireland	89.6	(0.81)
Norway	91.4	(0.73)
Poland	93.2	(0.61)

Association between Job Satisfaction and Other Variables

Results from a series of multilevel regressions (see Box 4.2 for technical details) indicate that across all TALIS countries, teachers who report a more positive disciplinary climate in their own classroom, better teacher-student relations and a higher degree of self-efficacy, report higher levels of job satisfaction, after controlling for teacher gender, years of experience, level of education, subject taught in the target class, school-average classroom disciplinary climate and school-average teacher-student relations. The regressions show that, in Ireland, neither teacher beliefs about instruction, nor the use of particular teaching practices, is associated with job satisfaction (OECD, 2009a, Table 4.12). Similarly, in Ireland, job satisfaction is not significantly associated with average classroom disciplinary climate in the school, nor with a measure of teacher-student relations at the school level. In Ireland, there is a moderate correlation between job satisfaction and teacher self-efficacy ($r=0.41$, $SE=0.023$, $p<0.01$).

No substantial differences, by school type, size, disadvantaged status or gender composition, are seen in the percentages of teachers in Ireland reporting that they are satisfied with their jobs (Table C4.11, Appendix C).

Conclusion

This chapter presented TALIS findings related to teachers' beliefs about teaching, their teaching practices, self-efficacy and job satisfaction. It also looked at levels of co-operation among teachers and teachers' ratings of the classroom environment and teacher-student relations.

Results indicate that in all TALIS countries, of the three types of instructional practice identified, teachers are least likely to use enhanced teaching activities, and less likely to use student-oriented practices than structuring practices. Teachers in Ireland use enhanced activities and student-oriented practices on a particularly infrequent basis, compared to their use of structuring practices. The OECD (2009a) recommends that professional development might be one way to boost teachers' use of student-oriented practices and enhanced activities. In Chapter 3 (Table 3.5b), it was noted that just 5% of teachers in Ireland report having professional development needs in the area of instructional practices, substantially below the TALIS average of 17%. It may be the case that teachers in Ireland

are indeed aware of practices such as student-oriented and enhanced activities (and therefore have low levels of development need), but do not employ them regularly for various reasons; e.g., they feel the subject they teach is not suited to such activities, the class size is too large to use such techniques, or preparation for exams precludes the use of particular approaches. On the other hand, teachers may be unaware of such approaches and may not realise that they have professional development needs in the area.

One initiative in Ireland which may increase mathematics teachers' use of student-oriented activities is Project Maths, which aims to improve students' problem solving skills and their understanding of mathematics (NCCA, n.d.). The project began in 2008 with an initial group of 24 schools. The revised syllabus will be introduced on a phased basis to all schools, beginning in September 2010. Greater emphasis is placed on student understanding of mathematics concepts and linking mathematics to everyday life and Project Maths appears to necessitate greater use of project work and practical examples.

It may be useful to consider how teacher beliefs may be linked to the implementation of projects such as Project Maths and conversely, how beliefs may be influenced by such projects. The OECD (2009a, p120) points out that constructivist beliefs are associated with the use of more varied instructional practices. It was noted in this chapter that teachers in Ireland who hold constructivist beliefs are somewhat more likely to engage more frequently in student-oriented practices and/or enhanced activities. Although Irish teachers endorse constructivist views, there is stronger support in Ireland for direct transmission than in many other countries. Given the relatively strong support for direct transmission beliefs in Ireland and given that initiatives such as Project Maths require the use of varied instructional practices which are associated with constructivist beliefs, it may be useful to attempt to address teacher beliefs at any in-service courses dealing with the introduction of new syllabi.

Particular sets of teacher beliefs are not necessary precursors for the successful implementation of new curricula; e.g., Levin and Nevo (2009) show how teachers with various beliefs at the outset moved towards constructivist beliefs through their experiences with a constructivist-based trans-disciplinary curriculum. Future research, in the Irish context, could examine the influence of curricular reform on teacher beliefs, and vice versa, as internationally, there is evidence of both beliefs influencing practice (e.g., Stipek, Givven, Salmon & MacGyvers, 2001) and practices influencing beliefs (e.g., Guskey, 1986). Consideration could also be given to the added dimension of peripheral beliefs which are those held, but not operationalised, versus central beliefs, which are those which dictate subsequent behaviour (Haney & McArthur, 2002).

Although teachers in Ireland report relatively widespread participation in the basic forms of co-operative activities, such as exchanging teaching materials with colleagues and discussing the development of specific students (exchange and co-ordination for teaching), there is scope to improve teachers' participation in the more complex type of co-operation, professional collaboration. This is the case across most TALIS countries; however, of the comparison countries, Poland shows the smallest difference in the relative frequencies of the two types of co-operation. Given the finding that involvement in professional collaboration is associated with number of days of professional development undertaken, it

is not surprising that professional collaboration should be more widespread in Poland, given the high average number of days of professional development there. This type of co-operation may warrant more attention in Ireland.

Findings from TALIS point towards a positive classroom disciplinary climate, on average, in Ireland. Fewer teachers in Ireland than on average in TALIS countries report having to wait a long time for students to quieten down, or having high levels of noise in the classroom. In addition, the percentage of time teachers report spending on teaching and learning in Ireland compares favourably to the TALIS average. Similarly, when principals were asked about the extent to which classroom disturbances hinder instruction (see Chapter 2), it was found that while about half of teachers work in schools where principals report this to be a problem either to some extent or a lot, only 12% of teachers work in schools where principals report classroom disturbances to hinder instruction 'a lot'.

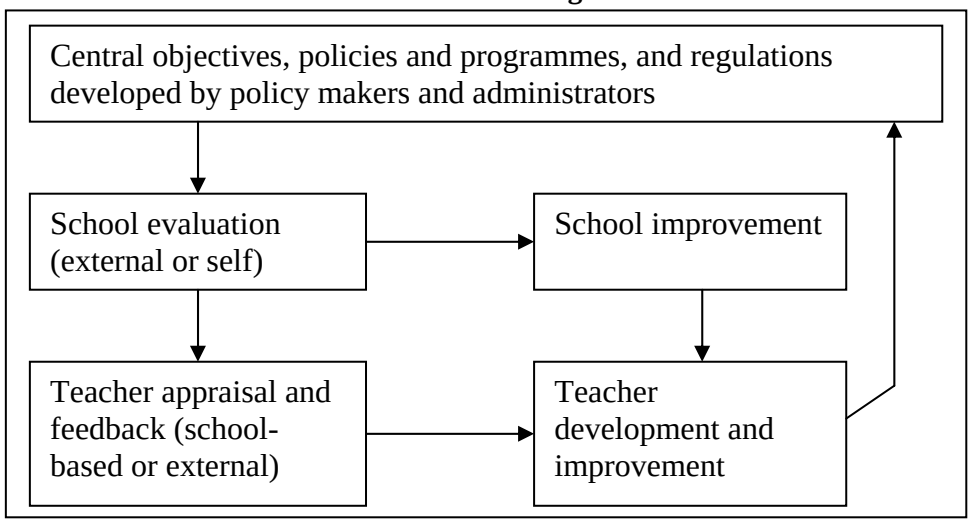
The overall positive picture of disciplinary climate which emerges from TALIS is somewhat at odds with the general perception of a decline in the disciplinary climate in Irish classrooms. The Report of the Task Force on Student Behaviour in Second Level Schools (2006, p.156) expresses concern 'about the escalating nature of antisocial behaviour patterns in our schools, and the malign consequences that arise from these'. The Task Force report refers to a number of surveys which provide evidence of increasing levels of disruptive behaviour in Irish schools; e.g., a survey by ASTI (cited in Task Force, 2006, p.65) found that some '71% of the respondents had taught classes in which some students engaged in continuous disruptive behaviour'. They also refer to a submission from the TUI (Task Force, 2006, p.62) which proposed that 'behaviour once classified as serious or 'high level' disruptive, is now classified as 'low level' disruptive, i.e. … behaviour that was exceptional some time ago is now normative'. A separate survey conducted by the TUI (2006) in vocational and community/comprehensive schools found high levels of disruptive behaviour. A number of factors may account for differences in the findings of TALIS and other single-focus surveys; e.g. differences in sampling procedures, response rates, survey content, and the fact that other surveys focussed solely on disciplinary issues.

5. School Evaluation and Teacher Appraisal and Feedback

This chapter considers two related issues – school evaluation and teacher appraisal[1] and feedback. First, it examines school evaluation with reference to the frequency of evaluations across countries, the criteria used in evaluating schools, and the effects of school evaluations. Second, it looks at teacher appraisal and feedback, again in terms of frequency, criteria and effects, as well as perceived fairness. Third, it considers links between school evaluation, teacher appraisal and feedback, and teachers' professional development needs.

In designing the TALIS study, the OECD adopted the perspective that school evaluations which reflect key policy objectives can impact in a positive way on school improvement and on teacher appraisal and feedback, which, in turn can impact on teacher development, and, eventually, on objectives and policies (Figure 5.1).

Figure 5.1. Hypothesised Links between Policy, Evaluation and Improvement in School Settings



Source: Based on OECD (2009a), Figure 5.1, p.142

This framework can also be considered in the context of recent demands for greater levels of accountability from schools and other publicly-funded organisations (OECD, 2005), and the view that the outcomes of evaluations can incentivise schools and teachers to improve performance.

[1] Although the term 'appraisal' is not typically used in Ireland in relation to the ongoing monitoring of teachers' professional practices, the term is used in the current report for purposes of comparison with other TALIS countries.

School Evaluations

This section describes the frequency of school-level evaluations, the criteria used in school evaluations, the focus of such evaluations, and their perceived outcomes. The data are drawn from the School Questionnaire completed by principal teachers in schools participating in TALIS. However, in most cases, the data are reported in terms of percentages of teachers.

Frequency of School Evaluations

TALIS identifies two types of school evaluation:

- school self-evaluations, for which a document or report was produced; on the questionnaire, principals in Ireland were referred to Part II of the whole school plan (SDPI, n.d.) as an example of a school self-evaluation
- school evaluations carried out by external bodies such as the Inspectorate of the Department of Education and Science; in Ireland, these explicitly excluded single subject evaluations conducted independently of whole-school evaluations.

Table 5.1 shows that 44%[2] of teachers in Ireland work in schools in which at least one self-evaluation was conducted in the previous 5 years. This compares with 75% in Norway, 80% on average across TALIS countries, and 90% in Poland. Some 60% of teachers in Norway, and 76% of teachers in Poland, work in schools in which more than one school self-evaluation had taken place.

Table 5.2 shows that, in general, external school evaluations occur somewhat less frequently across countries than school self-evaluations. Yet, in Belgium (Fl.), 90% of teachers work in schools which had experienced an external evaluation in the five years prior to TALIS, while 86% of teachers in Poland teach in such schools. In Ireland, 43% of teachers work in schools in which an external evaluation had taken place – the same percentage of teachers who work in schools that had experienced a self-evaluation. Whereas in several countries, including Belgium (Fl.) and Poland, over one-third of teachers work in schools that had been evaluated externally more than once, in Ireland, just 6.6% are in such schools.

Table 5.3 indicates the percentages of schools that did/did not participate in either type of evaluation in the five years prior to the survey. In Ireland, 61% of teachers teach in schools whose principals reported that at least one type of evaluation took place in the 5 years prior to TALIS. Thus, almost 40% of Irish teachers work in schools where no evaluation took place in the 5 years prior to TALIS; the highest proportion across all TALIS countries. Only two TALIS countries, Austria (35%) and Portugal (33%, OECD, 2009a, Table 5.1), have similar proportions of teachers to Ireland in schools where no evaluations took place. The remaining analyses in this section are based on data from those schools in which evaluations took place (i.e., in the case of Ireland, schools in which 61% of teachers teach).

[2] Although Table 5.1 indicates that 56.5% of teachers taught in schools in which no self-evaluation had taken place in the previous 5 years, the actual percentage is 56.497, which rounds back to 56%. Hence, 44% are in schools in which a self-evaluation had taken place.

Table 5.1: Percentages of Teachers in Schools in which School Self-Evaluations were Conducted with Varying Levels of Frequency in the 5 Years Prior to TALIS – Ireland, Comparison Countries, and TALIS Country Average

	More than One		One		None in Last Five Years	
	%	(SE)	%	(SE)	%	(SE)
Austria	30.1	(3.45)	28.2	(2.94)	41.7	(3.59)
Belgium (Fl.)	44.6	(4.83)	33.5	(4.04)	22.0	(3.91)
Denmark	52.5	(4.35)	15.1	(4.01)	32.4	(4.12)
Ireland	18.3	(3.77)	25.2	(4.52)	56.5	(5.06)
Norway	60.2	(4.23)	14.3	(3.35)	25.5	(4.08)
Poland	75.9	(3.01)	13.8	(2.95)	10.4	(2.56)
TALIS Average	63.6	-	16.2	(0.62)	20.2	(0.65)

Source: OECD (2009a) Table 5.1, Standard Errors from TALIS database

Table 5.2. Percentages of Teachers in Schools in which External School Evaluations were Conducted with Varying Levels of Frequency in the 5 Years Prior to TALIS – Ireland, Comparison Countries, and TALIS Country Average

	More than One		One		None in Last Five Years	
	%	(SE)	%	(SE)	%	(SE)
Austria	18.8	(2.63)	22.9	(3.09)	58.3	(3.37)
Belgium (Fl.)	35.1	(3.87)	54.6	(4.38)	10.4	(2.82)
Denmark	24.5	(4.37)	22.4	(4.36)	53.1	(4.31)
Ireland	6.6	(2.51)	36.5	(5.05)	56.9	(5.16)
Norway	29.5	(4.05)	34.9	(4.49)	35.6	(4.44)
Poland	34.8	(4.06)	51.6	(4.14)	13.7	(3.07)
TALIS Average	38.9	-	30.8	(0.74)	30.4	(0.72)

Source: OECD (2009a) Table 5.1, Standard Errors from TALIS database. SEs could not be computed for TALIS average percentages as data were missing for Iceland.

Table 5.3. Percentages of Teachers in Schools with at Least One School Evaluation (Self- or External) and in Schools with No Evaluation – Ireland, Comparison Countries and TALIS Country Average

	At Least One School Evaluation		No School Evaluations in Last Five Years	
	%	(SE)	%	(SE)
Austria	64.8	(3.49)	35.2	(3.49)
Belgium (Fl.)	94.2	(2.19)	5.8	(2.19)
Denmark	74.6	(4.03)	25.4	(4.03)
Ireland	60.9	(4.91)	39.1	(4.91)
Norway	82.8	(3.64)	17.2	(3.64)
Poland	93.5	(2.39)	6.5	(2.39)
TALIS Average	86.2	-	13.8	(0.56)

Source: OECD (2009a) Table 5.1 and TALIS database.

Criteria Used in School Evaluations

Principal teachers of schools that had participated in self-evaluations or external (whole-school) evaluations were asked to indicate the relative importance of each of 17 criteria in such evaluations. Table 5.4 gives the percentages of teachers in Ireland whose principals indicated that each criterion was considered as having 'high' or 'moderate' importance. Corresponding TALIS country averages are also presented. The table shows that, in Ireland, eight of the criteria are considered important in schools in which 90% of teachers or more work. Among the most important are teaching students with special learning needs, relations between students and teachers, the professional development undertaken by teachers, and teachers' classroom management. Indeed, for the first eight criteria on Table 5.4, more teachers in Ireland teach in schools in which the criteria are considered important than on average across TALIS countries.

The criteria which principals in Ireland indicated were less important include feedback from parents (76% of teachers); teaching in a multi-cultural setting (63%); and student feedback on the teaching they receive (56%). It is interesting that direct appraisal of classroom teaching (76%) is deemed somewhat less important than classroom management (93%) or student discipline (92%) since both seem to relate to direct appraisal. It is also interesting to note the relatively low emphasis in Ireland on student feedback on the teaching they receive (56%), compared with the corresponding TALIS country average (73%).

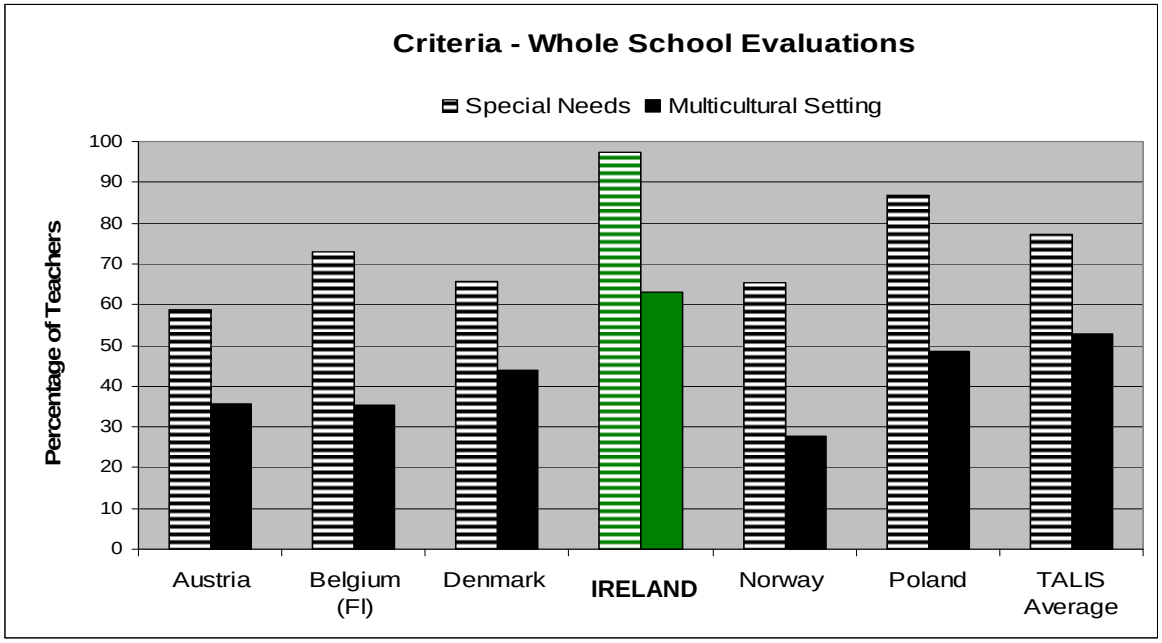
The data for Ireland are broadly similar to those for the five comparison countries. However, there are some differences. Figure 5.2 shows that teaching students with special learning needs is deemed to be more important in Ireland than in the other comparison countries. The emphasis on this area in Ireland may reflect its recent emergence as an issue in schools. Teaching in a multicultural setting is also considered to be more important by principal teachers in Ireland (*cf.* Notes 4 and 5, Chapter 3).

Table 5.4. Percentages of Teachers in Schools Whose Principals Reported that Various Criteria Were Considered with High or Moderate Importance in School Self-Evaluations or in External Evaluations – Ireland and TALIS Country Average

	Ireland		TALIS Average	
	%	(SE)	%	(SE)
Teaching students with special learning needs	97.5	(1.99)	77.2	(0.79)
Relations between teachers and students	94.5	(2.89)	87.1	(0.63)
Professional development undertaken by teachers	93.2	(2.91)	81.5	(0.67)
Teachers' classroom management	93.1	(2.95)	80.7	(0.71)
Student discipline and behaviour	91.9	(3.53)	83.6	(0.67)
Teachers' knowledge and understanding of instructional practices in their main study field	91.6	(3.88)	77.5	(0.75)
Teachers' knowledge and understanding of main subject fields	90.5	(3.71)	78.2	(0.73)
Innovative teaching practices	90.3	(3.85)	76.7	(0.76)
Extra-curricular activities with students (e.g., school plays, sporting activities)	85.6	(3.89)	74.5	(0.75)
Retention and pass rates of students	84.2	(4.67)	68.0	(6.55)
How well the teachers work with the principal and their colleagues	82.3	(5.17)	83.7	(0.70)
Student learning outcomes other than test scores and retention and pass rates	80.9	(5.07)	77.6	(5.45)
Student test scores (including in-house and state exams)	80.5	(4.91)	76.2	(0.77)
Feedback from parents	76.1	(5.77)	70.7	(4.25)
Direct appraisal of classroom teaching	75.7	(5.69)	88.9	(4.29)
Teaching in multicultural setting	62.9	(5.69)	52.9	(0.94)
Student feedback on the teaching they receive	55.8	(6.80)	72.7	(0.79)

Source: OECD (2009a), Table 5.1a

Figure 5.2. Percentages of Teachers in Schools Whose Principals Reported that 'Teaching Special Learning Needs Students' and 'Teaching in a Multicultural Setting' were Important Criteria in School Evaluations – Ireland, Comparison Countries and TALIS Average



Source: OECD (2009a), Table 5.1a, Parts 1 and 2.

Effects of School Evaluations

TALIS also sought to examine the perceived effects of school evaluations by asking school principals to indicate the extent to which such evaluations have an influence on each of several outcomes. Table 5.5 gives the percentages of teachers in schools whose principals indicated that school evaluations have 'moderate' or 'high' influence' on each outcome. The table shows that school evaluations were judged to have relatively little influence on school budgets in Ireland (37% of teachers work in schools in which evaluations are deemed to impact on budgets) or on average across TALIS countries (40%). No information was obtained on ways in which school evaluations impacted on school budgets (e.g., receipt of additional funding, reallocation of existing funding to address identified needs).

Almost no teachers in Ireland (1%)[3] teach in schools in which school evaluations impact on teacher remuneration. This contrasts with the TALIS country average of 26%, and 41% in Poland (OECD, 2009a, Table 5.2). On the other hand, over 80% of teachers in Ireland work in schools in which school evaluations are judged to impact on the performance feedback provided to schools, and the performance appraisal of school management. Almost three-quarters of teachers are in schools in which school evaluations are judged to impact on the assistance given to teachers to improve their teaching skills, though again it is unclear what form such assistance might take.

Table 5.5. Percentages of Teachers in Schools Whose Principals Reported that School Evaluations Had a 'Moderate' or 'High' Influence' on Various Outcomes – Ireland and TALIS Country Average

	Ireland		TALIS Average	
	%	(SE)	%	(SE)
The school budget	36.7	(6.99)	39.8	(6.21)
The performance feedback to schools	87.0	(4.18)	81.3	(0.71)
The performance appraisal of the school management	86.1	(4.16)	78.7	(0.72)
The performance appraisals of individual teachers	66.7	(6.07)	71.1	(0.79)
The assistance provided to teachers to improve their teaching skills	74.0	(5.16)	70.3	(0.79)
The remuneration and bonuses received by teachers	1.2	(0.89)	26.1	(0.71)

Source: OECD (2009a), Table 5.2

Publication of Results of School Evaluations

Finally, principal teachers in schools in which evaluations had taken place were asked to indicate if the results had been published and if they had been used in comparative or league tables. In Ireland, 65% of teachers teach in schools whose principals reported that the results were published. This is marginally higher than on average across TALIS countries (55%), and in Norway (58%), but lower than in Denmark (85%) and Belgium (Fl.) (77%) (Table 5.6).

[3] This corresponds to 16 teachers from 2 schools (unweighted Ns).

Surprisingly, 8%[4] of teachers in Ireland work in schools whose school principal indicated that the results of school evaluations are used by educational authorities (the Department of Education and Science) to compile and publish league tables comparing schools. Since this activity is forbidden by the 1998 Education Act, it may be that some principals were thinking about the league tables on university entry that are published by some newspapers. Among comparison countries, only in Denmark are more than 50% of teachers in schools whose principals reported that the results of school evaluations are used to compile league tables. The corresponding TALIS country average is 29% (Table 5.6).

Table 5.6. Percentages of Teachers in Schools whose Principals Reported that the Results of School Evaluations Were Published and Results Were Used by Government to Publish Tables that Compare the Performance of Individual Schools – Ireland, Comparison Countries, and TALIS Country Average

	Results published		League tables prepared and published	
	%	(SE)	%	(SE)
Austria	38.9	(4.20)	12.9	(2.99)
Belgium (Fl.)	76.8	(3.15)	29.7	(4.44)
Denmark	84.5	(4.04)	54.8	(5.19)
Ireland	64.9	(7.15)	8.1	(2.69)
Norway	58.2	(4.71)	15.4	(3.69)
Poland	17.0	(3.51)	29.2	(4.46)
TALIS Average	55.3	(0.88)	28.7	(0.74)

Source: OECD (2009a), Table 5.2a

Features of Teacher Appraisal and Feedback

TALIS defines teacher appraisal as a review of a teacher's work by the principal, an external inspector, or by his or her colleagues, and states that an appraisal can be conducted in a range of ways from a more formal, objective approach (e.g., as part of a formal performance management system, involving set procedures and criteria) to a more informal, more subjective approach (e.g., through informal discussions between the teacher and the evaluator). This section looks at the following issues in relation to teacher appraisal and feedback: frequency of teacher appraisal and feedback received; criteria used in teacher appraisal and feedback; and teachers' perceptions of the appraisal and feedback they receive. Analyses in this section are based on data from the teacher questionnaire.

Frequency of Teacher Appraisal and Feedback

In Ireland, 42% of teachers reported receiving appraisal of their teaching and/or feedback on it once a year or more frequently from the school principal. A further 15% of teachers received appraisal and/or feedback once every two years, or less frequently. Over 40% of teachers have never received appraisal and/or feedback from the principal. The percentage of teachers in Ireland who reported that they had received an appraisal of their teaching

[4]106 teachers from 7 schools (unweighted Ns)

and/or feedback on it from the principal teacher in their current school is the lowest among comparison countries (Table 5.7). Across all TALIS countries, only Italy (40%) and Spain (40%) have fewer teachers than Ireland who had been appraised by their school principal (OECD, 2009a, Table 5.3).

Similarly, fewer teachers in Ireland (48%), than in any of the comparison countries, reported that they had received an appraisal/feedback from other teachers or members of the school management team in the school in which they teach (Table 5.8). Again, across all TALIS countries, only Italy (32%) and Spain (41%) have fewer teachers than Ireland who had received an appraisal or feedback on their work (OECD, 2009a, Table 5.3). The corresponding OECD county average is 71%.

Table 5.7. Frequency of Appraisals/Feedback on Teaching in the Current School from the School Principal (Percentages of Teachers) – Ireland, Comparison Countries and TALIS Country Average

	Once a year or more		Once every two years or less often		Never	
	%	(SE)	%	(SE)	%	(SE)
Austria	53.0	1.23	29.0	0.99	18.0	0.85
Belgium (Fl.)	46.9	1.63	34.0	1.12	19.1	1.05
Denmark	67.7	1.77	18.1	1.31	14.2	1.16
Ireland	42.2	1.47	14.5	1.00	43.3	1.37
Norway	55.6	1.64	18.2	1.11	26.2	1.34
Poland	58.9	1.57	31.5	1.25	9.6	0.73
TALIS Average	64.2	-	13.7	-	22.0	0.16

Source: OECD (2009a), Table 5.3 (Part 1)

Table 5.8. Frequency of Appraisals/Feedback on Teaching from Other Teachers/School Management (Percentages of Teachers) – Ireland, Comparison Countries and TALIS Country Average

	Once a year or more		Once every two years or less often		Never	
	%	(SE)	%	(SE)	%	(SE)
Austria	50.8	(0.98)	14.4	(0.56)	34.8	(0.89)
Belgium (Fl.)	44.6	(1.40)	13.5	(0.65)	41.9	(1.58)
Denmark	70.1	(1.27)	8.7	(0.70)	21.3	(1.32)
Ireland	38.1	(1.03)	9.5	(0.71)	52.3	(1.16)
Norway	58.8	(1.17)	13.1	(0.82)	28.1	(0.94)
Poland	53.0	(1.47)	17.0	(0.83)	30.0	(1.19)
TALIS Average	61.8	-	9.5	-	28.6	(0.25)

Source: OECD (2009a), Table 5.3 (Part 2)

Just under half of teachers in Ireland (47%) received appraisal/feedback from an external individual or body (such as a Department of Education and Science Inspector) in

their current school (Table 5.9). This is similar to the TALIS country average (49%), and compares favourably with Denmark (30%) and Norway (22%). Other TALIS countries with fewer teachers than Ireland in receipt of appraisal/feedback from an external source include Australia (26%) and Portugal (16%). Hence, appraisal/feedback of teachers by their principals and/or other staff members occurs less often in Ireland relative to other countries, while appraisal/feedback conducted by external evaluators (e.g., an inspector) is more frequent than in several countries.

Table 5.9. Frequency of Appraisals/Feedback on Teaching from an External Individual or Body (Percentages of Teachers) – Ireland, Comparison Countries and TALIS Country Average

	Once a year or more		Once every two years or fewer		Never	
	%	(SE)	%	(SE)	%	(SE)
Austria	17.7	(0.67)	39.8	(0.95)	42.5	(1.07)
Belgium (Fl.)	11.3	(0.89)	48.8	(1.71)	39.9	(2.02)
Denmark	19.2	(1.31)	11.1	(1.38)	69.7	(1.51)
Ireland	9.9	(0.76)	37.2	(1.54)	53.0	(1.72)
Norway	9.1	(0.76)	13.1	(1.01)	77.8	(1.08)
Poland	6.9	(0.62)	32.6	(0.90)	60.5	(1.07)
TALIS Average	24.8	-	24.5	-	50.7	(0.33)

Source: OECD (2009a), Table 5.3 (part 2)

As shown in Table 5.10, when school-based and external appraisal/feedback are combined, we find that fewer teachers in Ireland (74%) received an appraisal than teachers in any of the comparison countries, or on average across TALIS countries. Across all TALIS countries, more teachers in Italy (55%) and Spain (46%) than in Ireland (26%) did not receive an appraisal from any source. The corresponding estimate for Portugal (26%) is about the same as for Ireland (OECD, 2009a, Table 5.3, part 2).

One might expect less-experienced teachers to be subject to more appraisal/feedback than their more experienced colleagues. Table D5.1 (Appendix D) shows this not to be the case in Ireland and in most comparison countries. In Ireland, 74% of teachers with fewer than two years experience, and 74% with more than 2 years reported that they had received appraisal/feedback from any source. In contrast, in Poland, a greater percentage of more experienced teachers (94%) than less experienced teachers (80%) reported receiving appraisal/feedback.

Table 5.10. Percentages of Teachers who Report Receiving an Appraisal and/or Feedback from the Principal, School Management or External Individuals – Ireland, Comparison Countries and TALIS Country Average

	Some Appraisal /Feedback Received in Last 5 Years	
	%	(SE)
Austria	89.1	(0.58)
Belgium (Fl.)	92.0	(0.67)
Denmark	92.6	(0.93)
Ireland	74.3	(1.13)
Norway	83.8	(0.89)
Poland	92.6	(0.62)
TALIS Average	86.6	-

Source: OECD (2009a) Table 5.3 and TALIS database.

Similarly, one might expect teachers in schools in which an external evaluation had occurred in the past five years would be more likely to report that they had received an appraisal than teachers in schools in which such an evaluation had not taken place. However, there is only a slight difference between the percentages of teachers who had received an appraisal in externally-evaluated schools (76%), and teachers in schools not so evaluated (74%) (Table 5.11).

Table 5.11. Percentages of Teachers in Schools Where an External Evaluation Has Taken Place Who Received an Appraisal of Their Teaching - Ireland

	Appraised	
	%	(SE)
No External Evaluations in Last 5 Years	74.0	(1.42)
At Least 1 External Evaluation in Last 5 Years	76.4	(2.15)

Criteria Used in Teacher Appraisal and Feedback

Teachers who reported receiving at least some appraisal were asked to indicate the level of importance attributed to each of 17 criteria that might be taken into account.[5] The analyses in the remainder of this section, unless otherwise stated, are based on the responses of teachers who received at least some appraisal/feedback in their current school, whether from the principal, another teacher or senior management, or from an external individual or body. Note that the percentage of teachers in Ireland who received appraisal or feedback is comparatively low by TALIS standards, and, where appraisals did occur, they may have taken place in the context of a subject inspection where teachers' work is not specifically the focus of the appraisal. In some cases, teachers may have had one evaluation only.

Table 5.12 gives the percentages of teachers in Ireland, and on average across TALIS countries, who indicated that each criterion had been given 'high' or 'moderate'

[5] These are the same criteria with which principal teachers were presented in the context of school-level evaluations.

importance. Across TALIS countries, areas considered of moderate or high importance by most teachers are:

- relations between teachers and students
- knowledge and understanding of teaching methods
- classroom management
- knowledge and understanding of main instructional field

Areas considered to be relatively less important include:

- teaching students with special needs
- retention and pass rate of students
- teaching in a multi-cultural setting.

According to teachers in Ireland, the criteria considered most important are similar: relations with students (86%), classroom management (85%), teacher knowledge and understanding of their main subject field(s) (82%), and teacher knowledge and understanding of instructional practices in their main subject field(s) (80%) (Table 5.12). Criteria considered less important include student feedback on teaching (59%), professional development undertaken (58%), teaching students with special learning needs (56%) and teaching in a multicultural setting (40%). While direct appraisal of teaching is perceived to be of high or moderate importance by 70% of teachers, classroom management is considered to be as important by 85%.

In general, similar levels of importance are attributed to criteria for appraisal/feedback by teachers in Ireland and by teachers in other comparison countries. However, there are some differences. Student test scores and retention and pass rates are attributed greater levels of importance in Ireland, while professional development undertaken and student feedback are regarded as less important. Just 45% of teachers in Austria, 47% in Norway, and 29% in Denmark consider student test scores to be important, compared with 72% in Ireland (OECD, 2009a, Table 5.4). The relatively high percentage in Ireland perhaps, reflects the emphasis on, and use of, Junior Certificate exam results. Just 20% of teachers in Austria, and 42% in Norway report that retention and pass rates of students are important, compared with 71% in Ireland. Fifty-eight percent of teachers in Ireland consider the professional development they have undertaken to be important, somewhat higher than the percentages in Austria (45%), Denmark (46%) and Norway (51%), but lower than that in Poland (87%). Finally, while 59% of teachers in Ireland report that feedback from students is an important criterion in the appraisal/feedback they receive, greater percentages do so in Austria (71%) and Poland (83%).

We can also draw comparisons across the criteria examined by principal teachers and class teachers (Tables 5.4 and 5.12 respectively, combined as Table D5.2). In drawing such comparisons, it should be noted that the purposes of school evaluations and teacher evaluations may be quite different, with the former emphasising aspects of whole-school functioning or areas of particular interest to the school, and the latter focusing more specifically on the activities of individual teachers. Table D5.2 shows that, for each

criterion, school principals (reported in terms of percentages of teachers in schools) in Ireland assign higher levels of importance than teachers. For example, 95% of teachers work in schools whose principal teachers consider relations with students to be highly, or moderately, important in school evaluations, compared with 86% of teachers (the highest-ranked criterion in teacher appraisal/feedback).

Table 5.12: Percentages of Teachers Indicating that Various Criteria Were Considered with High or Moderate Importance in Teacher Appraisal and Feedback – Ireland and TALIS Country Average

	Ireland		TALIS Average	
Criterion	%	(SE)	%	(SE)
Relations with students	86.1	(1.15)	85.2	(0.22)
Classroom management	84.7	(1.34)	79.7	(0.23)
Knowledge and understanding of my main subject field(s)	82.4	(1.16)	80.0	(0.25)
Knowledge and understanding teaching methods in my subject field(s)	80.1	(1.28)	78.2	(0.27)
Student discipline and behaviour	79.9	(1.42)	78.2	(0.26)
How well I work with the principal and my colleagues	74.0	(1.23)	77.5	(0.27)
Student test scores (including in-house and state exams)	72.0	(1.51)	65.0	(0.32)
Retention and pass rates of students	70.9	(1.70)	56.2	(0.34)
Direct appraisal of classroom teaching	69.5	(1.45)	73.5	(0.26)
Innovative teaching practices	68.6	(1.40)	70.7	(0.29)
Student learning outcomes other than test scores and retention and pass rates	67.7	(1.70)	68.4	(0.30)
Feedback from parents	66.8	(1.41)	69.1	(0.29)
Extra-curricular activities with students	63.5	(1.48)	62.2	(0.30)
Student feedback on my teaching	59.4	(1.51)	72.8	(0.29)
Professional development I have undertaken	58.0	(1.63)	64.5	(0.30)
Teaching students with special learning needs	56.4	(1.91)	57.2	(0.35)
Teaching in a multicultural setting	40.1	(2.19)	45.0	(0.36)

Source: OECD (2009a), Table 5.4

There are other notable differences:

- Ninety percent of teachers work in schools whose school principals consider innovative teaching practices to be important in school evaluations, while 69% of teachers consider innovative practices to be important in teacher appraisal/feedback.
- Ninety-eight percent of teachers work in schools whose principals consider teaching students with special learning needs to be important in school evaluations, while 56% of teachers consider the same criterion to be important in teacher appraisal/feedback
- Ninety-three percent of teachers work in schools whose principals consider the professional development undertaken by teachers to be a key criterion in school evaluations, compared with 58% of teachers who think it is important in teacher appraisal/feedback.

- Sixty-three percent of teachers work in schools whose principals consider teaching in a multicultural setting to be important in school evaluations, compared with 40% of teachers who report that it is important in teacher appraisal/feedback.

Teachers' Perceptions of the Appraisal and Feedback They Receive

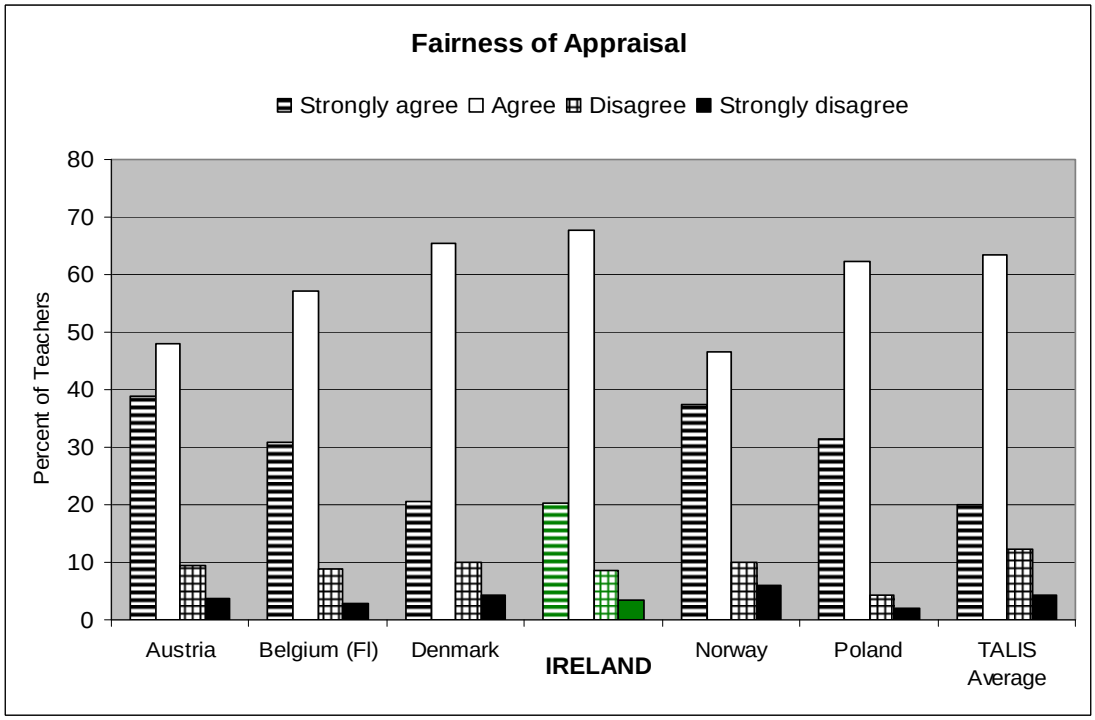
Teachers were asked four questions about the appraisal/feedback they received:

- Their agreement/disagreement with the view that the appraisal/feedback was a fair assessment of their work as a teacher in their school
- Their agreement/disagreement with the view that the appraisal/feedback was helpful in their development as teachers
- Whether or not the appraisal/feedback contained a judgement about the quality of their work
- Whether or not it contained suggestions for improving aspects of their work.

The vast majority of teachers in Ireland (88%) and on average across TALIS countries (83%) 'agreed' or 'strongly agreed' with the view that the appraisal/feedback they had received was fair, with the response profile for Ireland similar to that of Denmark (Figure 5.3). In Austria (48%), Norway (47%) and Poland (31%), more teachers than in Ireland (20%) expressed strong agreement (Figure 5.3).

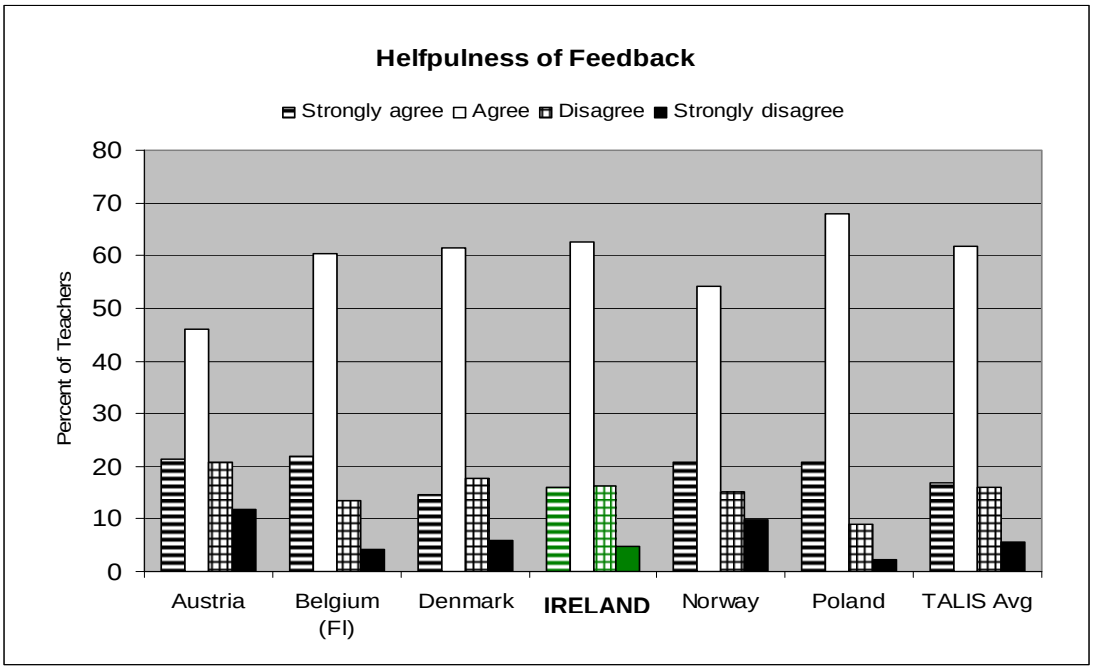
Over three-quarters of teachers in Ireland (79%) and on average across TALIS countries (79%) 'agreed' or 'strongly agreed' that the appraisal/feedback they had received was useful in their development as teachers (Figure 5.4). Again, more teachers in Poland (89%) than in Ireland or the other comparison countries expressed agreement.

Figure 5.3. Percentages of Teachers Indicating Agreement that Appraisal/Feedback Received Was Fair – Ireland, Comparison Countries, and TALIS Average



Source: OECD (2009a), Table 5.7

Figure 5.4. Percentages of Teachers Indicating Agreement that Appraisal/Feedback Received Was Helpful in the Development of Their Work as Teachers – Ireland, Comparison Countries, and TALIS Average

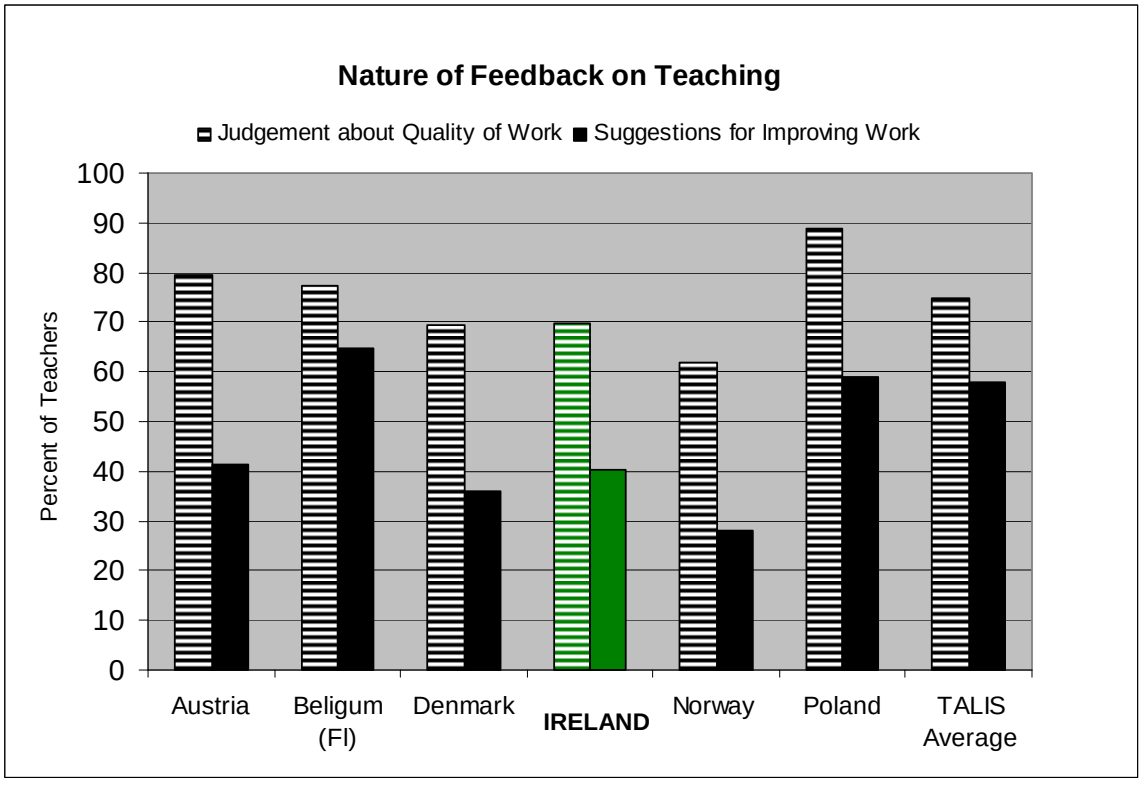


Source: OECD (2009a), Table 5.7

In Ireland, 70% of teachers reported that the appraisal/feedback they received contained a judgement about the quality of their work as teachers (Figure 5.5). This is the

same as in Denmark (70%), more than in Norway (62%), and fewer than in Austria (89%), Belgium (Fl.) (77%) and Poland (89%). The TALIS country average is 74%. In each country, fewer teachers reported that the appraisal/feedback they received contained suggestions for improving their work. In Ireland, just 40% of teachers reported receiving specific suggestions – about the same as in Austria (41%), more than in Norway (28%) and Denmark (36%), and fewer than in Belgium (Fl.) (65%) and Poland (59%). For this variable, the TAILS country average is 58%. One reason that teachers in Ireland may not have received more specific feedback may relate to the context in which they were appraised. Some appraisals may have been conducted in the context of whole-school evaluations or subject inspections, where the overall goal was not to provide individual teachers with specific suggestions for improving their work.

Figure 5.5. Percentages of Teachers Indicating That the Appraisal/Feedback They Received Contained a Judgement about the Quality of Their Work, and Percentages Indicating that It Contained Suggestions for Improving It – Ireland, Comparison Countries, and TALIS Country Average



Source: OECD (2009a), Table 5.7

Outcomes and Impact of Teacher Appraisal and Feedback

In TALIS, teachers who had received at least some appraisal and/or feedback were asked about the outcomes of this in three broad areas:

- Aspects of their work and career, including a change in salary, opportunities for professional development, and changes in work responsibilities.

- Personal impact – job satisfaction and job security.
- Teaching, including classroom management, discipline and behaviour problems, and teaching students in a multi-cultural setting.

Career-related Outcomes of Appraisal/Feedback

Teachers were asked to indicate the extent to which teacher appraisal/feedback had impacted on each of seven (eight in Ireland) possible outcomes, including outcomes related to financial gain and change in work responsibilities. In general, in Ireland and across TALIS countries, teacher appraisal/feedback was reported to have very modest effects on most outcomes (Table 5.13). In Ireland, just 4% of teachers reported that appraisal and feedback had led to a 'moderate' or 'large' extent to a change in salary, compared with 9% across TALIS countries. Similarly, just 1% of teachers in Ireland reported a financial bonus or other kind of monetary reward, compared with 11% across TALIS countries. Appraisal/feedback was reported to have a somewhat greater impact on career advancement (13% of teachers in Ireland, and 16% across TALIS countries) and on changes in work responsibilities to make teaching more attractive (16% of teachers in Ireland, 27% across TALIS countries). The two areas on which appraisal/feedback had the greatest impact, both in Ireland and on average across TALIS countries, were public recognition from the principal and/or from colleagues (25% of teachers in Ireland, 36% across TALIS countries), and a role in school development initiatives (23% in Ireland, 30% across TALIS countries).

In four of the five comparison countries – Austria, Belgium (Fl.), Denmark and Norway – teachers' reports of the effects of appraisal are similar to Ireland. Only in Poland are there meaningful differences. For example, 39% of teachers in Poland reported that appraisal/feedback results in a large or moderate change in the likelihood of career advancement, 56% that it results in increased recognition from the principal and/or colleagues, and 42% that it leads to a role in school development initiatives (OECD, 2009a, Table 5.5).

Teachers in Ireland were asked an additional question regarding the extent to which appraisal and/or feedback directly led to a change in affirmation of their work. About one-third of teachers in Ireland indicated that appraisal and/or feedback led to a moderate or large change in the affirmation of their work.

Table 5.13: Percentages of Teachers Reporting that Teacher Appraisal/Feedback Had a 'Moderate' or 'Large' Change on Various Outcomes – Ireland and TALIS Country Average

	Ireland		TALIS Average	
Outcome	%	(SE)	%	(SE)
A change in salary	3.5	(0.44)	9.1	(0.16)
A financial bonus or another kind of reward	1.4	(0.40)	11.1	(0.20)
A change in the likelihood of career advancement	13.3	(1.09)	16.2	(0.19)
Public recognition from the principal and/or colleagues	24.8	(1.10)	36.4	(0.27)
Opportunities for professional development activities	13.4	(1.00)	23.7	(0.26)
Changes in work responsibilities to make job more attractive	16.0	(1.11)	26.7	(0.24)
A role in school development initiatives (e.g., curriculum development)	23.2	(1.29)	29.6	(0.26)
Affirmation of your work	34.5	(1.35)	*a*	*a*

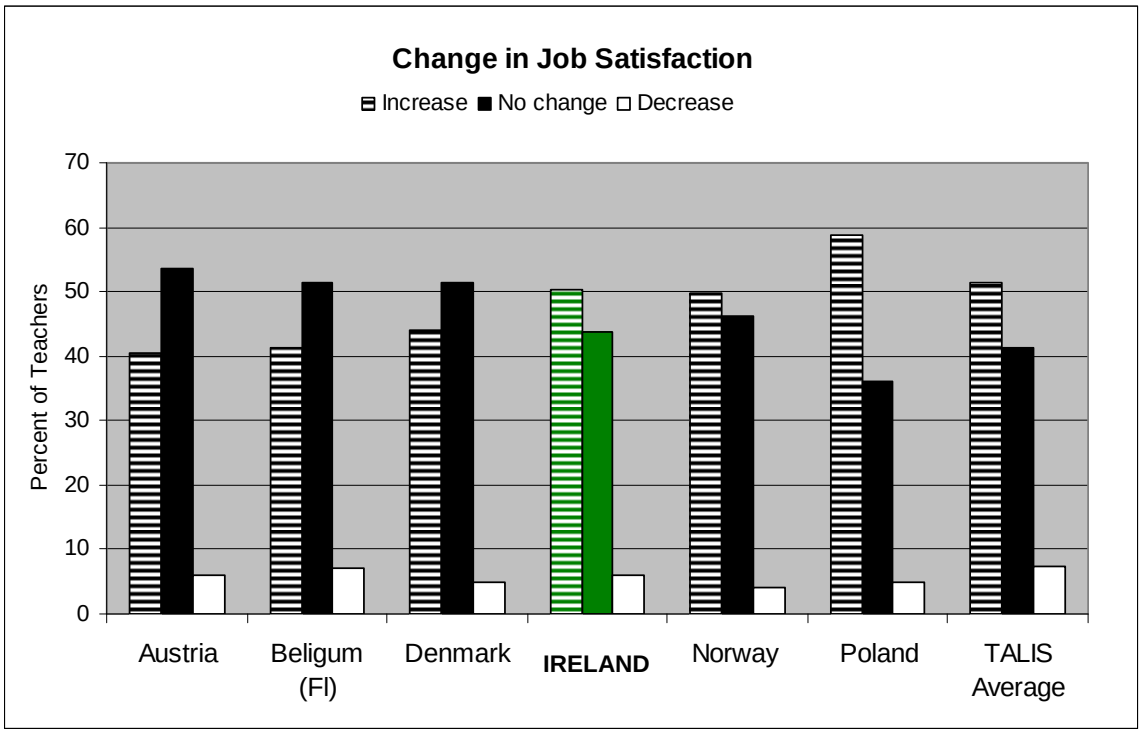
Source: OECD (2009a), Table 5.5

[a]Item not administered internationally

Perceived Personal Impact of Appraisal/Feedback

In Ireland and Norway, and on average across TALIS countries, about one-half of teachers indicated that appraisal/feedback had led to an increase in job satisfaction (Figure 5.6). In Poland, 59% of teachers reported an increase. Relatively few teachers in Ireland (6%) or in the other comparison countries reported a decrease.

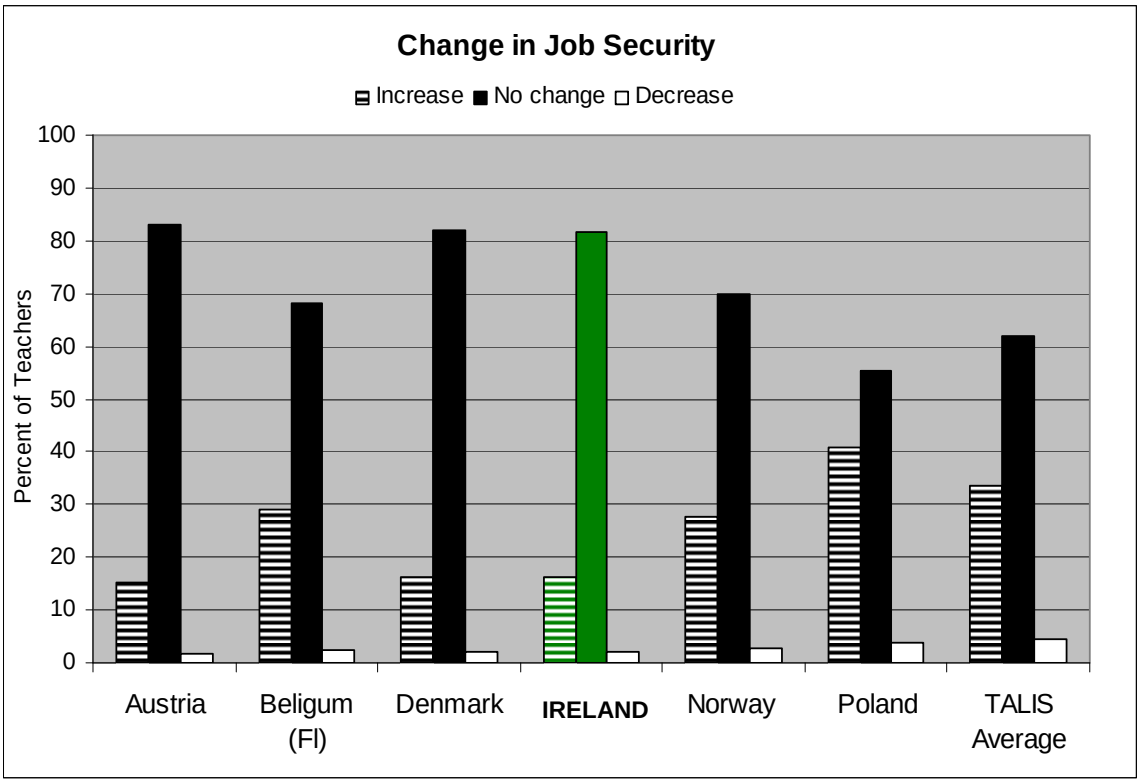
Figure 5.6. Percentages of Teachers Reporting that Teacher Appraisal and Feedback Had An Increase, No Change or a Decrease on Job Satisfaction – Ireland, Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 5.7a

In Ireland and Denmark, just 16% of teachers reported an increase in job security following appraisal/feedback, compared with 28% in Norway, 29% in Belgium (Fl.), 41% in Poland, and 34% across TALIS countries (Figure 5.7). In all countries, at least one half of teachers reported no change in job security, while fewer than 5% (2% in Ireland) reported a decrease.

Figure 5.7. Percentages of Teachers Reporting that Teacher Appraisal/Feedback Had An Increase, No Change or a Decrease on Job Security – Ireland, Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 5.7a

Perceived Impact of Appraisal/Feedback on Teaching

Teachers in TALIS indicated the extent to which each of 8 possible outcomes related to improving teaching and learning was influenced by teacher appraisal/feedback[6]. Table 5.14 shows that, for each outcome, the percentage of teachers in Ireland indicating a high or moderate impact is smaller than the corresponding TALIS country averages. For example, whereas in Ireland, 21% of teachers indicated that appraisal/feedback resulted in a moderate or large change to a teacher development or training plan designed to improve teaching, on average across TALIS countries, 37% indicated such a change.

[6] The outcomes overlap with the list of criteria whose importance principals were asked to evaluate in relation to whole school evaluation (Table 5.4),.

Table 5.14: Percentages of Teachers Indicating Moderate or Large Change in Various Outcomes as a Result of Teacher Appraisal/Feedback – Ireland and TALIS Country Average

	Ireland		TALIS Average	
Outcomes	%	(SE)	%	(SE)
Classroom management practices	25.2	(1.28)	37.6	(0.26)
Knowledge or understanding of teacher's main subject	18.7	(0.91)	33.9	(0.26)
Knowledge or understanding of instructional practices	24.5	(1.30)	37.5	(0.28)
A teacher development or training plan to improve teaching	21.3	(1.33)	37.4	(0.28)
Teaching of students with special learning needs	19.3	(1.20)	27.2	(0.29)
Student discipline and behaviour problems	23.4	(1.34)	37.2	(0.26)
Teaching students in a multi-cultural setting	12.0	(1.09)	21.5	(0.23)
The emphasis placed on improving students' test scores	26.7	(1.04)	41.2	(0.27)

Source: OECD (2009a), Table 5.8

Teachers in comparison countries Austria, Belgium (Fl.), Denmark and Norway also indicated relatively low levels of impact on these outcomes. In Denmark, just 11% of teachers indicated a large or moderate change in knowledge or understanding of instructional practices (compared with 25% in Ireland) (OECD, 2009a, Table 5.8). Teachers in Denmark (6%) and Norway (7%) also indicated particularly low levels of impact on teaching students in a multicultural setting. Teachers in Poland reported higher levels of impact than teachers in Ireland on seven of the eight outcomes. The exception was teaching in a multicultural setting, where the percentage of teachers in Poland indicating high or moderate impact (11%) was about the same as for Ireland.

Responses on the impact of appraisal/feedback may have been influenced by within-country and within-school factors. For example, if most teachers in a country do not have a teacher development or training plan, an appraisal/feedback is less likely to impact on it than in countries where a plan exists and is routinely updated. Responses to another outcome, teaching in a multi-cultural setting, may be influenced by individual teachers' situations, and whether or not they teach students from different cultures.

On the other hand, it is clear that, at least in Ireland and across the comparison countries, appraisal and feedback tend not to impact strongly on what might be viewed as key components of teaching. Indeed, Table 5.15 shows that over half of teachers in Ireland and 78% in Denmark reported no change in any of the specified aspects of teaching following appraisal/feedback, while only one-quarter of teachers in Poland reported no change.

Table 5.15. Percentages of Teachers Reporting Some Change/No Change in Teaching Following Appraisal/Feedback – Ireland and Comparison Countries

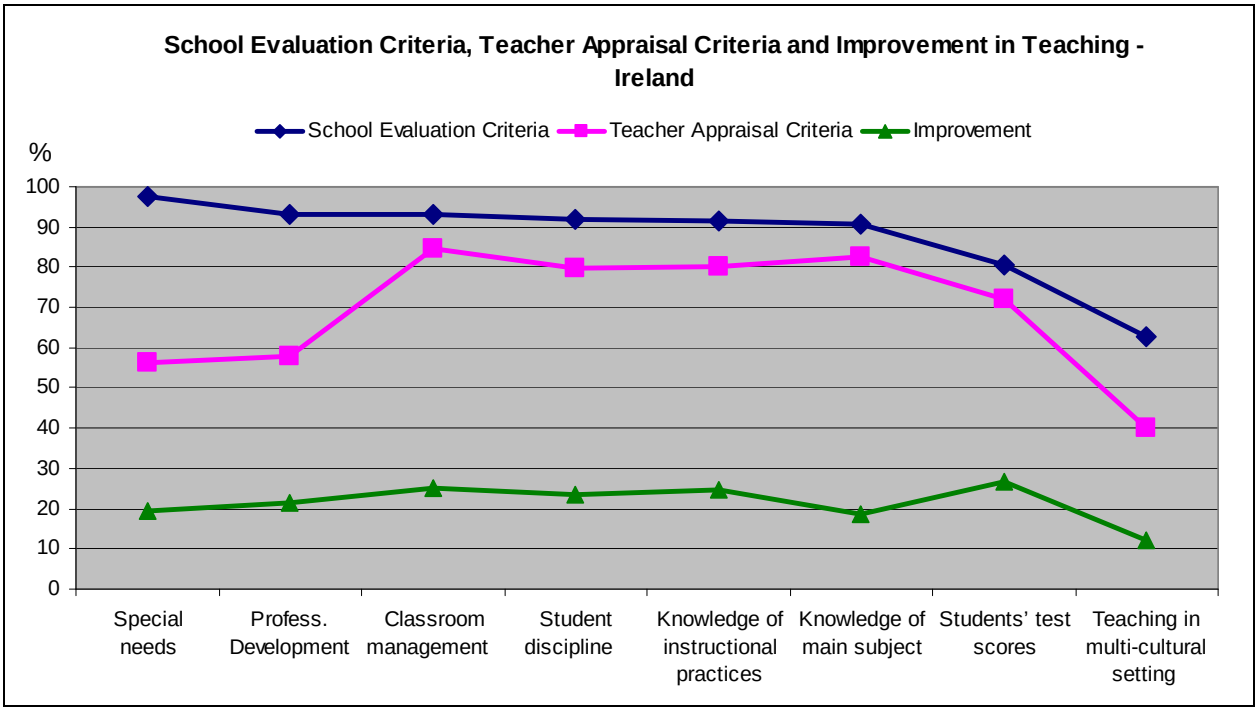
	Some change following appraisal		No change following appraisal	
	%	(SE)	%	(SE)
Austria	38.7	(1.58)	61.3	(1.58)
Belgium (Fl.)	35.9	(1.82)	64.1	(1.82)
Denmark	21.8	(2.19)	78.2	(2.19)
Ireland	45.9	(2.45)	54.1	(2.45)
Norway	39.7	(2.43)	60.3	(2.43)
Poland	74.7	(2.25)	25.3	(2.25)

Note: Only includes those teachers who received appraisal or feedback.
Data were not available to compute TALIS country average

Are there associations between the criteria taken into account in school evaluations and teacher appraisals, and the outcomes of appraisal/feedback? As discussed earlier, Figure 5.8 indicates that, in Ireland, principal teachers (represented by percentages of teachers) indicated greater emphasis on each criterion in school evaluations than did teachers in the context of teacher appraisal/feedback. Figure 5.8 also shows a substantial gap between the importance attributed by teachers to each criterion and the impact the appraisal/feedback on that criterion (outcome).

These differences, which are also apparent on average across TALIS countries, may arise for a number of reasons, including differences between school evaluations (which may focus on broad policy issues), teachers appraisals (which may focus on individual teaching practices, at least from the perspective of teachers themselves), and improvements in teaching (which may apply to a lesser extent to teachers who are already deemed effective).

Figure 5.8. Percentages of Teachers whose Principals Indicated Selected Criteria Were Important in School Evaluations, Teachers Who Indicated that the Criteria Were Important in Appraisal/Feedback, and Teachers Who Indicated Changes in Related Outcomes following Teacher Appraisal and Feedback – Ireland



Source: OECD (2009a), Tables 5.1a, 5.4 and 5.8

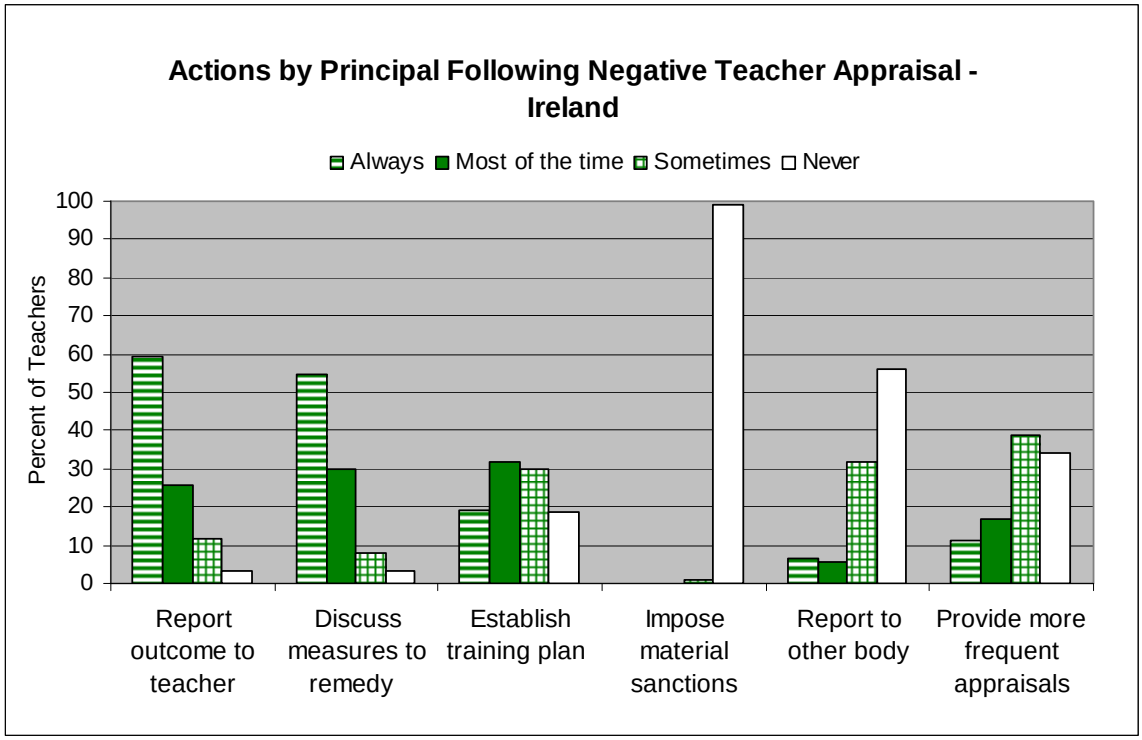
Actions Following the Identification of a Weakness in a Teacher Appraisal

Principal teachers in TALIS were asked to indicate the actions they took if an appraisal of a teacher's work identified a weakness or if the teacher was considered to be underperforming in his/her teaching duties. As indicated in Figure 5.9, 85% of teachers are in schools whose principal reports the outcomes of an appraisal to the teacher concerned, 'always' or 'most of the time'. This is about the same as the corresponding TALIS country average of 88% (OECD, 2009a, Table 5.6), and lower than in comparison country Poland (99%).

In Ireland, 85% of teachers are in schools where the principal ensures that remedies to address a weakness in their teaching are discussed with a teacher 'most of the time' or 'always'. This is about the same as the TALIS country average (90%), while for comparison country Poland, it is 100%.

About one-half (51%) of teachers in Ireland work in schools where the school principal reported that s/he or others in the school establish a development or training plan to address a teacher's weaknesses in their teaching. This is marginally higher than in comparison countries Austria (40%) and Norway (37%), about the same as in Denmark (55%) and Belgium (Fl.) (56%), and lower than in Poland (87%). The TALIS country average is 57%.

Figure 5.9. Percentages of Teachers in Ireland in Schools Whose Principals Undertake Various Actions, Following Identification of a Weakness in a Teacher Appraisal



Source: OECD (2009a), Table 5.6

In all TALIS countries except Korea, at least 70% of teachers work in schools whose principals reported that they never impose material sanctions (such as reduced annual increases in pay) on teachers who had demonstrated a weakness. In Ireland, just 1% of teachers taught in schools where the principal reported imposing a sanction. In Poland, 10% of teachers work in such schools. The corresponding TALIS country average is 2.7%.

The extent to which principal teachers reported the underperformance of teachers to another body such as a governing board, a local education authority or a school inspector, to take action varies by country. In Ireland, 12% of teachers worked in schools whose principals indicated that this occurred most of the time or always. This is higher than in Denmark (2%), Norway (5%) and Poland (7%), about the same as in Belgium (16%), and lower than in Austria (21%). The TALIS country average is also 12%.

Finally, the implementation of more frequent teacher appraisals is practised less often in Ireland than on average across TALIS countries as a response to weaknesses identified in a teacher appraisal. In Ireland, 28% of teachers work in schools whose principals reported that they ensure that teachers with difficulties have more frequent appraisals of their work most of the time or always. The corresponding TALIS country average is 57%. While Austria (53%), Belgium (Fl.) (57%), and Denmark (52%) are all closer to the TALIS average, Poland (74%) is comfortably above it. Only Norway (38%) is close to Ireland.

Impact of Teacher Appraisal/Feedback on School Development

All teachers in TALIS[7] were asked to indicate their level of agreement with each of a series of statements about teacher appraisal and feedback that related in a broad way to aspects of school development. The responses of teachers in Ireland can be divided into those with which very few teachers expressed agreement, and those with which two-fifths to one-half of teachers agreed.

Five responses fall into the first category. Just 6% agreed or strongly agreed that the principal teacher takes steps to alter the monetary rewards of a persistently under-performing teacher (Table 5.16). The percentage for Ireland was the lowest across all of the TALIS countries, and well behind the TALIS country average (23%). Similarly, in Ireland, just 7% of teachers agreed or strongly agreed that, if they improved the quality of their teaching, they would receive increased monetary or non-monetary rewards. Four of the five comparison countries also expressed very low levels of agreement with this statement (OECD, 2009a, Table 5.9). The exception was Poland where 52% agreed or strongly agreed. Seven percent of teachers in Ireland expressed agreement with the view that they would receive increased monetary and non-monetary awards for more innovative teaching. Again, four of the five comparison countries expressed very low levels of agreement with this statement. In Poland, however, 47% agreed or strongly agreed. Just 8% of teachers in Ireland agreed or strongly agreed that the most effective teachers in their school received the greatest monetary or non-monetary rewards. Again, the corresponding percentage was low for four of the five comparison countries, ranging from 5% in Belgium (Fl.) to 15% in Denmark. In contrast, 59% of teachers in Poland agreed or strongly agreed. Just 11% of teachers in Ireland agreed or strongly agreed with the view that a teacher in their school would be dismissed because of sustained poor performance. Percentages for the comparison countries varied on this statement, with 12% in Austria agreeing or strongly agreeing, 44% in Belgium (Fl.), 35% in Denmark, 11% in Norway, and 34% in Poland. Hence, only Norway is similar to Ireland with respect to dismissal of poor-performing teachers.

In Ireland, 60% of teachers agreed or strongly agreed that the review of teachers' work had little impact on the way teachers teach in the classroom. A broadly similar view was offered by teachers in the comparison countries, ranging from 44% in Belgium (Fl.) to 66% in Norway. Indeed, the estimate for Norway was highest across all TALIS countries. The percentages for Ireland, and indeed the comparison countries, are consistent with the data in Table 5.15, which indicates that a majority of teachers in all comparison countries except Poland reported that there had been no change on any of 8 specified aspects of teaching, following appraisal and feedback.

The finding that almost three-fifths (59%) of teachers in Ireland agreed or strongly agreed with the view that sustained poor performance of a teacher in their school would be tolerated by the rest of the staff is broadly consistent with low levels of agreement with the view that teachers would be dismissed or face a financial penalty for poor teaching performance. On average across TALIS countries, just one-third of teachers believed that

[7] It should be noted that, unlike other questions in this section, all teachers in TALIS (including those not in receipt of appraisal/feedback) were asked to respond to these statements.

sustained poor performance would be tolerated by teachers. The percentage across TALIS countries ranges from 26% in Belgium (Fl.) and Poland to 59% in Norway (the same as for Ireland).

Table 5.16: Percentages of Teachers Indicating 'Agreement' or 'Strong Agreement' with Statements about Aspects of Teacher Appraisal and Feedback, and Their Relation to School Development

	Ireland		TALIS Average	
Statement: In this school…	%	(SE)	%	(SE)
the principal takes steps to alter the monetary rewards of a persistently under-performing teacher	5.6	(0.59)	23.1	(0.25)
if I improve the quality of my teaching, I will receive increased monetary or non-monetary rewards	6.6	(0.63)	25.8	(0.25)
if I am more innovative in my teaching, I will receive increased monetary or non-monetary rewards	7.0	(0.60)	26.0	(0.25)
the most effective teachers receive the greatest monetary or non-monetary reward	7.5	(0.66)	26.2	(0.28)
teachers will be dismissed because of sustained poor performance	10.9	(1.06)	27.9	(0.27)
the principal uses effective methods to determine whether teachers are performing well or badly	39.1	(1.61)	55.4	(0.30)
a development or training plan is established for teachers to improve their work as teachers	51.9	(1.69)	59.7	(0.32)
the review of teachers' work is largely done to fulfil administrative requirements	52.8	(1.28)	44.3	(0.30)
the sustained poor performance of a teacher would be tolerated by the rest of the staff	58.9	(1.32)	33.8	(0.26)
the review of teachers' work has little impact on the way teachers teach in the classroom	60.2	(1.38)	49.8	(0.29)

Source: OECD (2009a), Table 5.9

Just over half of teachers in Ireland (53%) agreed or strongly agreed that the review of teachers' work in their school is largely done to fulfil administrative requirements. Estimates for comparison countries ranged from 38% (Belgium (Fl.)) to 48% (Denmark), with a TALIS country average of 44%.

Fifty-two percent of teachers in Ireland agreed or strongly agreed that a development or training plan is established for teachers to improve their work as teachers.[8] This is greater than in Austria (21%) and Norway (42%) and Belgium (Fl.) (45%), about the same as in Denmark (54%), and fewer than in Poland (79%). On average across TALIS countries, 60% indicated that a development or training plan was established in their school for teachers to improve their teaching.

Finally, in Ireland, 39% agreed or strongly agreed that the principal in their school uses effective methods to ascertain whether they were performing well or poorly. This was

[8] This is greater than the percentage of teachers in Ireland who had received an appraisal and reported that the appraisal had influenced a development or training plan to improve their teaching (21%, Table 5.14).

greater than in Norway (28%), about the same as in Denmark (38%), and fewer than in Austria (46%), Belgium (Fl.) (50%) or Poland (75%). The average across TALIS countries was 55%.

Links between School Evaluations, Teacher Appraisal and Feedback, and Teachers' Professional Development Needs

In the TALIS international report (OECD, 2009a), it is argued that factors that are considered to be important in school evaluations should also be emphasised in teacher appraisal and feedback. This, it is reasoned, allows for a synergy between what policy-makers wish to achieve (at system and school levels) and what teachers seek to achieve in the context of their work in classrooms. Figure 5.8 (above) provided some evidence of this in the case of Ireland. It showed that, with the exception of teaching students with special learning needs and professional development undertaken, the relative emphasis on criteria used in school evaluations and teacher appraisals is broadly similar. The figure also showed that teachers reported relatively little change in any of the eight practices considered, following appraisal and/or feedback. The OECD used path analysis (see Box 5.1) to examine this issue across TALIS countries. For each participating country, for six of the eight aspects of teaching, they considered teachers' professional development needs in each area, in terms of their possible link with changes in teaching arising from appraisal and feedback. The six areas are:

- Teaching students with special learning needs
- Teaching in a multi-cultural setting
- Classroom management
- Student discipline and behaviour problems
- Teachers' knowledge and understanding of main subject
- Teachers' knowledge and understanding of instructional practices in main field

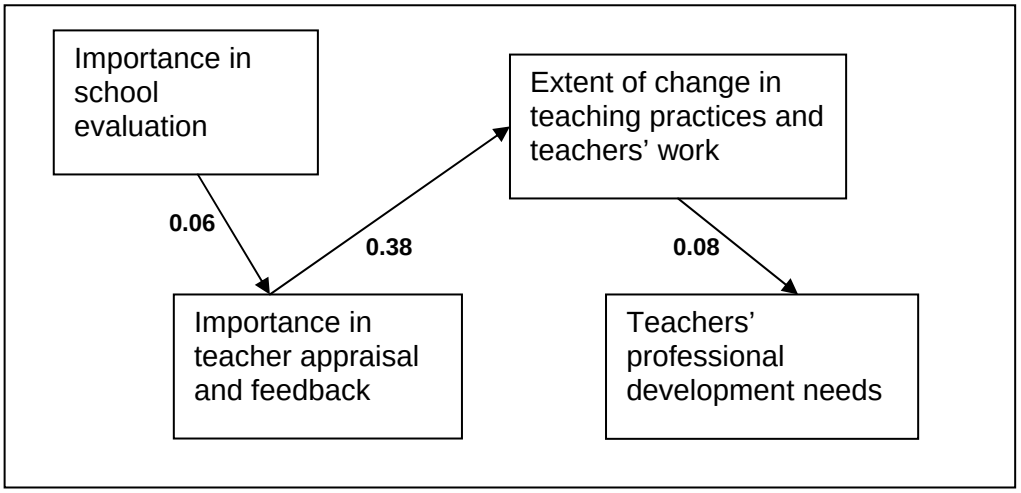
Figure 5.10 provides a path model for teaching students with special learning needs for all TALIS countries combined. The coefficient between the importance attributed to teaching students with special needs in school evaluations (according to principal teachers), and its importance in teacher appraisals (according to teachers) is 0.06, which is statistically significant, but weak. In contrast, the coefficient of 0.38 between the importance of teaching students with special needs in teacher appraisals and the extent to which teachers report changing their teaching practice as a result of appraisal/feedback (both based on teacher ratings) is moderately strong. Finally, the coefficient of 0.08 between extent of change in teaching practices and teachers' work and teachers' professional development needs in relation to teaching students with special learning needs (see Chapter 3) is also weak.

Table 5.17 summarises the path analysis coefficients for Ireland, for each comparison country, and for the pooled TALIS data across participating countries, for teaching students with special learning needs. The table shows that, in the case of Ireland and Belgium (Fl.), the relationship between the importance attributed to teaching students with special learning needs in school evaluations and the importance attached to this in teacher appraisal and feedback is not statistically significant. In countries where the association is statistically significant, it tends to be weak.

Box 5.1. Statistical Terminology: Path Analysis

Path Analysis: Path analysis is an extension of multiple regression. Its aim is to provide estimates of the magnitude and significance of hypothesised causal connections between sets of variables. A regression is done for each variable in the model as dependent on others which the model indicates are causes. Single arrows indicate causation between intermediary variables and the dependent(s). A path coefficient is a standardised regression coefficient (beta) showing the direct effect of an independent variable on a dependent variable in the path model. When the model has two or more independent variables, path coefficients are partial regressions which measure the extent of the effect of one variable on another in the path model, controlling for other variables. Path analysis can be viewed as a special case of structural equation modelling in which only single indicators are employed for each of the variables in the causal model. Care should be exercised in inferring that relationships in path models are causal.

Figure 5.10. Path Analysis for Teaching Students with Special Learning Needs – TALIS Countries Combined



All coefficients are statistically significant

The path coefficients for the association between the importance attributed to teaching students with special learning needs in teacher appraisal and the extent of change in teacher practices and teachers' work in this same area are statistically significant in all countries, ranging from 0.26 in Ireland to 0.44 in Poland. This can be viewed as a potentially positive

impact of teacher appraisal and feedback. Among the countries in Table 5.17, Ireland is the only one in which the path coefficient for the extent of change in teacher practices and teachers' work in relation to teaching students with special learning needs and teachers' professional development needs in the same area is not statistically significant. In contrast, the coefficients for Belgium (Fl.) and Poland exceed 0.30. In the case of Ireland, this outcome can be interpreted as a lack of synergy between school evaluation and teacher appraisal, and between change in teacher practices and professional development needs.

Tables D5.3 to D5.7 in Appendix D provide the coefficients for path models on teaching in a multicultural setting, teachers' classroom management, student discipline and behaviour problems, teachers' knowledge and understanding of main subject field, and teachers' knowledge and instructional practices in their main subject field, for Ireland, for the comparison countries, and on average across TALIS countries. .

A common feature across the five models is the weak, and often statistically non-significant, associations between school evaluations and teacher appraisal and feedback. In Ireland, these are not statistically significant in the case of classroom management, teachers' handling of student discipline and behaviour problems, and teachers' knowledge and understanding of their main subject field. Again, this appears to indicate a lack of synergy between the focus of school evaluations and teacher appraisal and feedback. However, the path coefficients between school evaluation and teacher appraisal for teaching in a multicultural setting are statistically significant in Ireland and in all 5 comparison countries, though they are larger in Norway (0.31) and Belgium (Fl.)(0.21) than in Ireland (0.12), Austria (0.11) and Poland (0.05).

Table 5.17: Path Analyses Coefficients for Teaching Students with Special Learning Needs – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	**0.15** (0.03)	-0.01 (0.02)	**0.13** (0.05)	0.0 (0.80)	**0.09** (0.03)	**0.14** (0.03)	**0.06** (0.01)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.29** (0.02)	**0.34** (0.02)	**0.33** (0.03)	**0.26** (0.30)	**0.32** (0.03)	**0.44** (0.03)	**0.38** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.26** (0.02)	**0.30** (0.02)	**0.29** (0.03)	0.05 (0.30)	**0.12** (0.02)	**0.37** (0.02)	**0.08** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009a). Chapter 5 – Supplementary Tables. Path Analysis: Country Results: Special Learning Needs. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

In Ireland and in all comparison countries, the path coefficients for importance in teacher appraisal and feedback on change in teachers' practices and teachers' work are

statistically significant for all five aspects of teaching in Tables D5.3 to D5.7. The relationship is particularly strong for teaching in a multicultural setting, ranging from 0.28 in Austria to 0.38 in Denmark. The coefficient for Ireland was 0.31, while, for pooled TALIS countries it was 0.51. Thus, where teaching in a multicultural setting was perceived by teachers to be important in teacher appraisal and feedback, it was also an area in which they observed changes in their teaching practices and their work.

Coefficients between extent of change in teacher practices and teachers' work, and teachers' professional development needs are moderately large for teaching in a multicultural setting, ranging from 0.20 in Ireland to 0.30 in Denmark. The corresponding coefficients are also moderately large for classroom management (Range: 0.20 in Ireland to 0.32 in Belgium (Fl.) and handling student discipline and behaviour problems (Range: 0.23 in Norway and 0.41 in Belgium (Fl.). The coefficients are weakest for teachers' knowledge and understanding of main subject field, and teachers' knowledge and understanding of instructional practices in their main subject field, suggesting less consistent associations between appraisal/feedback and professional development needs in these areas. Hence, for these areas, changes in teaching are less strongly predictive of corresponding professional development needs.

Conclusion

Chapter 5 dealt with the frequency of schools evaluations and teacher appraisal and feedback, and with the perceived effects of these on schools and teachers.

School Evaluations

Fewer teachers in Ireland than in comparison countries Austria, Belgium (Fl.), Denmark, Norway and Poland teach in schools in which a school self-evaluation took place in the five years prior to TALIS. Indeed, on average across TALIS countries, 80% of teachers teach in schools in which an evaluation took place, compared with 44% in Ireland. Given the emphasis on school development planning in Ireland in recent years, and the availability of support for such an evaluation through the School Development Planning Initiative, it is surprising that Ireland falls behind other TALIS countries on this indicator.

Ireland compares more favourably with other countries in relation to the frequency of whole-school evaluations by external bodies such as education departments, with 43% of teachers working in schools in which an external school evaluation took place in the last five years. This is about the same as in comparison countries Austria (41%) and Denmark (47%), but below the TALIS country average of 70%. In several countries, including Austria and Denmark, more teachers than in Ireland work in schools in which more than one external evaluation took place in the previous five years.

There may be concern that 39% of teachers in Ireland work in schools in which no evaluation (either self- or external) took place in the five years prior to TALIS. However, in 2008, in addition to 60 whole-school evaluations conducted by the DES inspectorate, 443 stand-alone subject inspections were also completed. While the latter do not constitute

school evaluations, they nevertheless focus the attention of the school on the quality of teaching and learning and form an important component of the DES Inspectorate's evaluation programme. It is also possible that, in responding to the TALIS questionnaire, some principal teachers may not have interpreted activities such as formulating a plan under DEIS as school self-evaluation, even though such an activity may have involved elements of evaluation, even if it did not result in a written evaluation report.

Given the potential benefits of school self-evaluation (see Chapter 1), a clear policy priority in the short term may be to increase the number of self-evaluations in Irish post-primary schools. It would not seem unreasonable for each post-primary school to implement one self-evaluation every five years, in addition to any external school evaluations or subject evaluations that are scheduled to take place. Some years ago, the Department of Education and Science (1999), though the School Planning Initiative, published a document, *School Development Planning*, which provided specific suggestions on school self-evaluation, including its purpose, when it should take place, and how evidence could be gathered. Similarly, the Inspectorate of the Department of Education and Science (2003) published a booklet, *Looking at Our School: An Aid to Self-evaluation in Second-level Schools*, which outlined how schools could evaluate such areas as school management, school planning, curriculum provision, learning and teaching in subjects, and support for students (areas that are also evaluated by the inspectorate as part of Whole School Evaluation). While these documents provide a useful focus for self-evaluation, it might also be worth considering ways in which other self-evaluative activities conducted by schools, such as programme plans or reviews, might be acknowledged in the context of Whole School Evaluation.

It is noteworthy that large proportions of teachers in Ireland work in schools whose principal teachers indicate that a broad range of criteria are considered to be important in school evaluations. This may arise from the structure of Whole School Evaluation, where a broad range of criteria is also considered (see Department of Education and Science, 2003). According to TALIS, relations between teachers and students are accorded a very high level of importance in school self-evaluations and external evaluations, along with teaching students with special needs, professional development undertaken by teachers (despite relatively infrequent involvement by teachers in Ireland), and student discipline and behaviour. Less emphasis is placed on student test scores, feedback from parents, teaching in multicultural settings, and student feedback on the teaching they receive. It is interesting, in this respect, that the DES Inspectorate has recently initiated a pilot WSE scheme, in which students and parents are to be asked to provide their views on various aspects of the operation of schools (Flynn, 2009, October 9).

Working in a multi-cultural setting also seems important as a criterion for evaluations, though it is recognised that schools and classes vary in terms of the numbers of newcomer and foreign-national students enrolled. Nevertheless, there may be value in focusing on the extent to which the work of schools embraces an inter-cultural perspective (see, for example, NCCA, 2005, which deals with intercultural integration in primary schools). This seems relevant regardless of the enrolment composition of particular schools or classes at any given point in time.

The fact that the DES publishes reports on WSE and subject inspections on its website is recognised in the finding that two-thirds of teachers work in schools where the results of school evaluations (either whole-school or self-) were published.

Teacher Appraisal and Feedback

Teachers in Ireland were involved in external appraisals of their teaching with about the same frequency as their counterparts in other countries in TALIS, and were ahead of Denmark, Norway and Poland in this respect. On the other hand, fewer teachers in Ireland had been appraised by their school principals or colleagues than teachers in most TALIS countries. The reasons for this are unclear. It may be that principal teachers in Ireland have many responsibilities other than teaching, and therefore are unable to accommodate more teacher observations. Teachers who hold posts of responsibility (for example, subject heads) may not be required to observe their colleagues' teaching, or may not be comfortable adopting this role, outside of structured contexts, such as mentoring. In any event, it would seem important to explore ways in which principal teachers might adopt a stronger role in directing teachers' professional practices and providing teachers with feedback. This seems particularly important if, as TALIS seems to suggest, teachers generally benefit from regular appraisal and feedback on their work.

Not surprisingly, given the inconsistent nature of teacher appraisal in Ireland, there are differences between the criteria that are viewed by school principals as being important in whole school evaluations, and those that teachers perceive as being important in the appraisal of their work. Thus, while the teaching of students with special learning needs, the professional development undertaken by teachers and the extra-curricular activities they lead, are all viewed as having high importance in school evaluations, they are reported by teachers to be less important in teacher appraisals. It may be that, while these issues are indeed important at school level, they diminish in importance as they filter down to the classroom. This is a particular concern. If, for example, teachers perceive that their participation in professional development is not an important criterion in their appraisal, they may overlook opportunities to seek out the professional development they need in the future. Hence, there are valid reasons for attempting to link aspects of school evaluation with teacher appraisal, including the possibility of promoting national or school-level policies by evaluating the extent to which they are being implemented at class level. Nevertheless, it is also recognised that teacher appraisal, which sometimes takes place in the context of subject inspections, has a more specific focus and may not lend itself to the evaluation of broad, policy-related criteria. But increased monitoring of teachers' professional practices by school principals could facilitate stronger links between the criteria used in school evaluations and those used in teacher appraisal.

On a broad level, teachers in Ireland were satisfied with the appraisal/feedback they had received. Almost nine in ten teachers (88%) 'agreed' or 'strongly agreed' that the appraisal of their work that they had received was fair, while almost four in five (79%) expressed similar levels of agreement with the view that the appraisal/feedback they received had been useful in their development as teachers. Just one-half of teachers in Ireland, and on average across TALIS countries, reported that appraisal/feedback had led to an increase in job satisfaction, while only 16% in Ireland and 34% across TALIS

countries reported an increase in job security. Hence, at least from the perspective of teachers, the outcomes of appraisal/feedback seem to focus more on general development, with some links to job satisfaction, and few or no links to job security. The latter finding may arise because many teachers who are appraised have job security anyway. Nevertheless, there would seem to be value in linking teacher appraisal more strongly to other outcomes such as public recognition for excellence in teaching, and changes in work responsibilities, and, more broadly, teachers' career paths.

Links between Teaching and Professional Development

The descriptive data and path analyses reported in this chapter support the view that links between teacher appraisal and teacher professional development are weak, particularly in Ireland. Even though most teachers in Ireland work in schools whose principal teachers report that professional development undertaken by teachers is an important criterion in school evaluations, just six in ten teachers report that the professional development they have undertaken is an important criterion in appraisal of their teaching, while just one in five report that a teaching development or training plan is formulated on the basis of an appraisal of their teaching. The path analysis for teaching students with special learning needs shows a non-significant association between improvement in teaching and professional development needs, while there are modest associations for other aspects of teaching, including classroom management, handling student discipline and behaviour problems, and teachers' knowledge and understanding of instructional practices in their main subject field. It is acknowledged that some teacher appraisals in Ireland were conducted in the context of subject inspections by members of the inspectorate, where the main focus may not have been on providing individual feedback to teachers, or identifying ways to support their individual development. However, this seems to underline a need to increase the involvement of principals directing teachers' professional practices, and, more broadly, in the preparation of development programmes for teachers that include an emphasis on professional development.

The need to address teachers' professional development is also underlined by the finding in Chapter 4 that teachers in Ireland are less supportive of constructivist approaches to teaching and learning, and more likely to embrace structuring teaching practices rather than student-orientated practices or enhanced activities, compared with their colleagues in other European countries in TALIS. Hence, it would seem that professional development needs to address approaches to teaching as well as other areas identified by teachers in this study.

Underperforming Teachers

TALIS was not designed to address in any detail the issue of underperforming teachers. Nevertheless, some of the findings in this chapter suggest that it is an area that needs to be addressed at policy level. First, there is the finding that over 90% of teachers in Ireland disagree or strongly disagree with the view that teachers in their school will be dismissed because of sustained poor performance. Second, almost 60% of teachers agree or strongly agree that the sustained poor performance of a teacher would be tolerated by the rest of the staff. In addition, as noted in this chapter, the actions initiated by principals in Ireland to

deal with negative teacher appraisals (e.g., discussing weaknesses with the teachers concerned, providing more frequent appraisals, establishing a training plan) were not implemented as frequently as might be expected. Taken together, these findings suggest that, in many schools, under-performance may not addressed in a systematic way. Although an in-depth consideration of teacher under-performance in teaching and in related areas is beyond the scope of this report, it is raised as something to be considered by the Teaching Council and other bodies as they examine ways in which teachers can be supported in their development throughout their careers.

6. School Leadership and Management Styles

School leadership has become a priority on education policy agendas internationally. It can play a key role in improving school outcomes by influencing the motivations and capacities of teachers, as well as the school climate and environment (OECD, 2009a). Effective school leadership is believed by some authors (e.g. Pont, Nusche & Moorman, 2008) to be essential to improving the efficiency and equity of schooling.

In Ireland, it is widely acknowledged that the role of the school principal has changed significantly in recent years (Leadership Development for Schools, 2007). Section 22 of the Education Act (Ireland, 1998) sets out the role of the school principal, indicating that s/he has responsibility for: instruction; encouraging and fostering learning in students; regularly evaluating and periodically reporting the results of the evaluation to students and their parents; promoting co-operation between the school and the community it serves; and carrying out the duties assigned by the board of management. Section 23 of the Act states that the principal should be responsible for the day-to-day management of the school, including guidance and direction of the teachers and other staff of the school; be accountable to the board of management; provide leadership to teachers and other staff and the students of the school; and be responsible for the creation, together with the board, parents of students, and the teachers, of a school environment which is supportive of learning and which promotes professional development of the teachers.

As part of this work, principals in Ireland must deal with the requirements of other recent legislation, including the Education Welfare Act (Ireland, 2000), and elements of the Education for Persons with Special Education Needs Act (Ireland, 2004) that are currently in force. Principals are also required to ensure compliance with the Data Protection Act (Ireland, 1988), the Data Protection (Amendment) Act (Ireland, 2003), and the Safety, Health and Welfare at Work Act (Ireland, 2005).

According to Sugrue (2003), prior to 1971, the work of principals in Ireland was mainly administrative. Between 1971 and 1989, it was primarily managerial, but since 1990 there has been a growing emphasis on leadership in addition to administration and management. Sugrue notes a tension between on the one hand, the traditional administrative and management functions that principals undertake, and, on the other, the kind of instructional leadership that is implied in the recent literature on school leadership.

There is increased emphasis internationally on the decentralisation of decision making from central authorities to schools and an increase in autonomy and accountability for student performance (Pont, Nusche & Moorman, 2008). However, according to Leadership Development for Schools (2007), the autonomy that most schools in Ireland have enjoyed historically has been eroded by the impact of legislative change and increased accountability, including accountability for student performance through whole school evaluation and inspection.

The first part of this chapter provides an overview of the age, experience and levels of education of principals in Ireland. The second part describes the management behaviours and leadership styles of school principals in Ireland and in comparison countries in TALIS. In the third part, relationships between leadership styles and a number of other variables are examined through use of multi-level regression models. These variables include a range of characteristics of the principals and their schools, teachers' beliefs, their instructional practices, their appraisal and feedback, and their professional development. The data for the first part of the chapter are mainly drawn from the TALIS school questionnaire (completed by principal teachers). The data for the third part include teacher scales described in Chapters 4 and 5.

It should be noted that TALIS looked at management practices only from the point of view of principal teachers, and paid relatively little attention to the activities or views of middle management in schools. Further, the preparation of school principals for undertaking management roles and the support provided to them were not examined (except in Ireland, where principals were asked to give the number of professional development days completed, which were intended to prepare or support them in their role as principal, see Chapter 3).

Characteristics of School Principals in Ireland

In Chapter 2 it was noted that almost 35% of school principals in Ireland are female. In this section, the age profile of principals in Ireland and comparison countries is presented, followed by the levels of education of principals. Finally, principals' overall experience, their experience in their current schools, and their experience as classroom teachers prior to becoming principal, are considered.

Figure 6.1 shows that the majority of principals in Ireland (62%) are aged between 50 and 59 years, with a further 20% aged between 40 and 49 years, and 13% aged 60 years or more (see also Table E6.1, Appendix E). This is similar to the age profile of principals in Austria, Denmark and Norway. In Belgium (Fl.) a higher proportion of principals are in the 40-49 age group (31%), while in Poland, this category accounts for the majority of principals (53%). In both Belgium (Fl.) and Poland, the '60 or above' category accounts for a small percentage of principals (under 5% in both countries).

Figure 6.2 (see also Table E6.2, Appendix E) shows that principals in Denmark, Ireland and Norway most commonly have a Bachelors degree, although higher percentages in Ireland (33%) and Norway (29%) have a Masters degree than in Denmark (15%). In Poland, almost all principals (97%) have a Masters degree. As seen in Chapter 2 with the education levels of teachers, it is uncommon for principals in Austria or Belgium (Fl.) to have Bachelor degrees. The percentage of principals in Austria with a Masters degree (22%) is similar to that in Norway, while the percentage in Belgium (Fl.) (58%) is higher than in any of the comparison countries apart from Poland. Of the comparison countries, Austria sees the highest percentage of principals with doctorates (5%), approximately twice the percentage in Ireland (2%).

Figure 6.1. Percentages of Principals by Age – Ireland and Comparison Countries

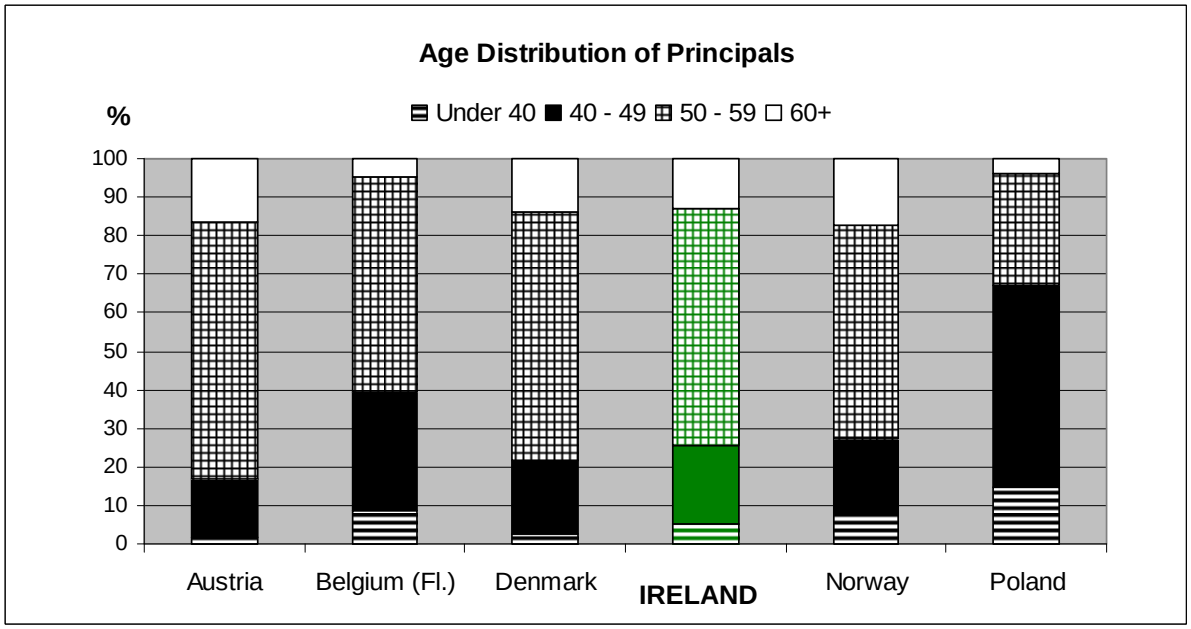
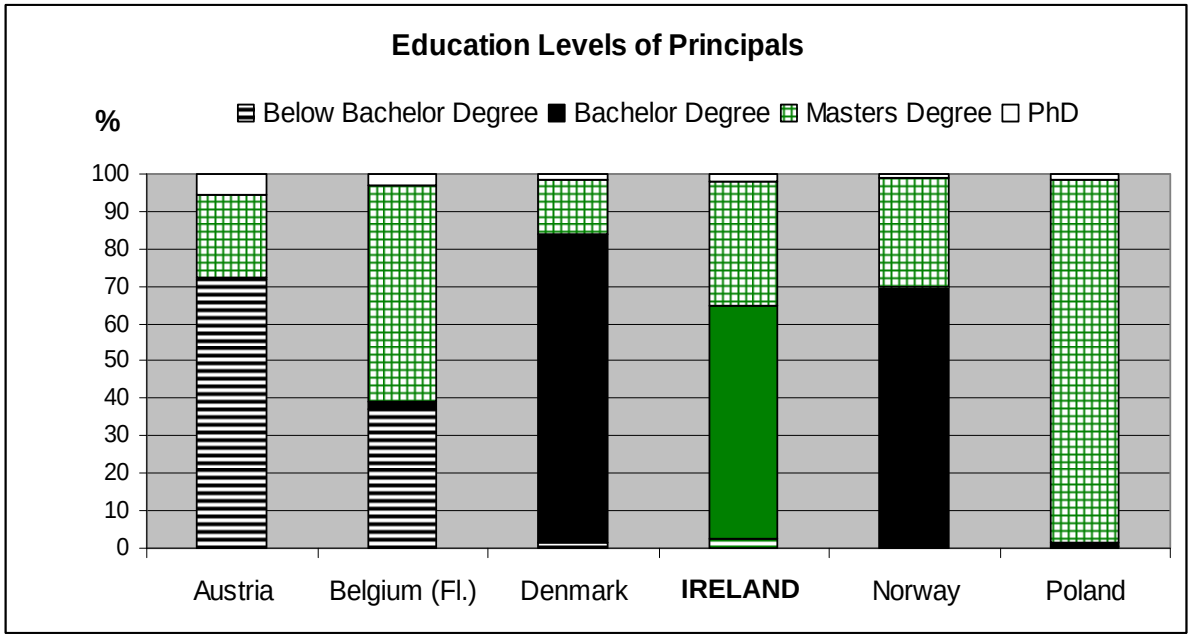


Figure 6.2. Percentages of Principals by Level of Education – Ireland and Comparison Countries



Principal teachers were also asked in TALIS about their experience as a principal, in total and in their current school. In Ireland, approximately 11% of principals were in their first year as principal (Table 6.1) and a further 15% have one or two years experience. Together these categories account for one-quarter of principals in Ireland, which is similar to the percentage in Poland (22%) but higher than in the other comparison countries. The percentage of principals in their first year in Norway (6%) is somewhat lower than in Ireland or the other comparison countries. The percentage of principals with 11 to 15 years experience in Denmark (31%) is approximately twice that in Ireland (14%). Another

difference between countries relates to the percentages of principals with 16 or more years of experience. Combining the categories '16-20 years' and 'more than 20' accounts for about one-quarter of principals in Denmark and Poland but just 8% in Belgium (Fl.). Almost 15% of Irish principals are in this category, which is similar to the percentages in Austria and Norway.

Table 6.1. Percentages of Principals by Years of Experience as a Principal – Ireland and Comparison Countries

	First Yr		1-2 yrs		3-5 yrs		6-10 yrs		11-15 yrs		16-20 yrs		More than 20	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
AUT	7.4	(1.65)	4.8	(1.44)	27.2	(3.18)	28.5	(3.20)	13.3	(2.45)	11.4	(2.58)	7.3	(2.47)
BFL	12.1	(3.35)	7.0	(2.00)	22.1	(3.88)	33.4	(4.39)	17.2	(3.04)	4.6	(1.55)	3.5	(1.43)
DNK	8.3	(6.26)	5.4	(2.36)	12.5	(3.16)	17.8	(4.05)	31.0	(6.99)	13.0	(3.29)	12.0	(4.22)
IRL	10.8	(2.95)	15.1	(3.12)	21.6	(3.92)	23.2	(3.45)	14.4	(2.91)	9.8	(2.95)	5.0	(2.15)
NOR	6.2	(2.19)	9.9	(2.63)	18.3	(3.56)	28.6	(3.46)	20.6	(3.71)	10.5	(2.54)	5.9	(1.92)
POL	9.6	(2.95)	12.3	(4.06)	16.6	(3.50)	28.9	(3.72)	10.1	(2.50)	17.5	(4.42)	4.9	(1.68)

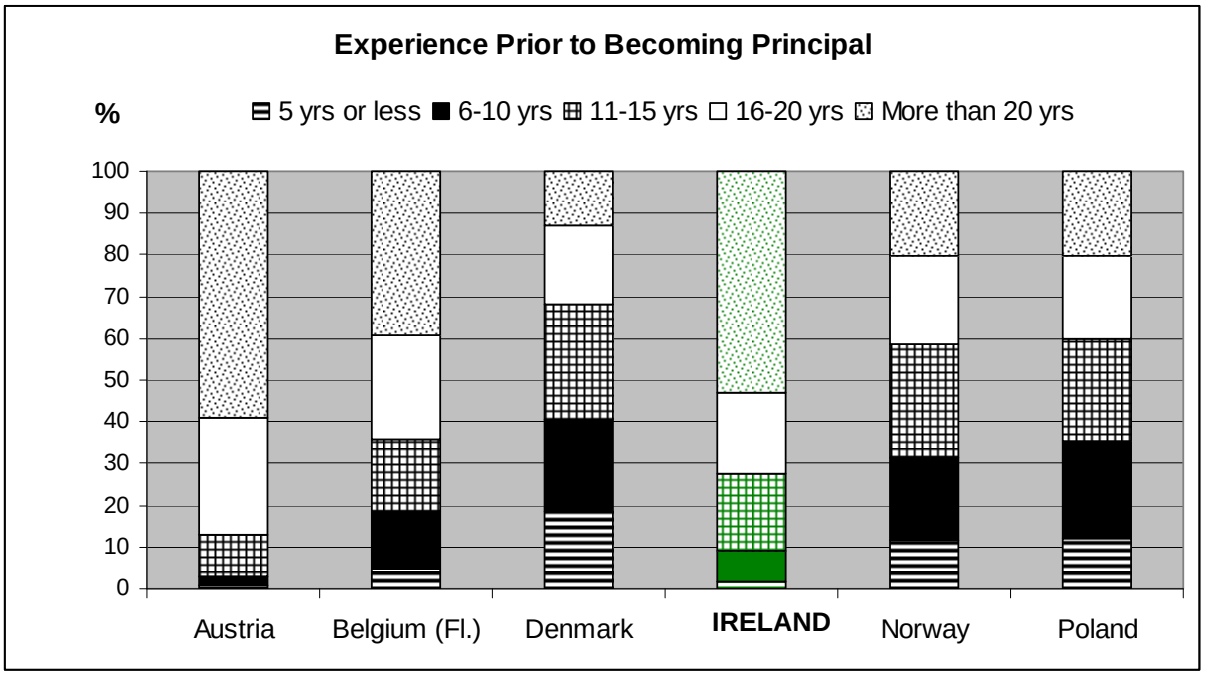
The percentages of principals in each of the categories for length of tenure in current school (Table 6.2) are broadly similar across countries, although in Poland, no principals reported working in their current schools for more than twenty years. In Ireland, almost 3% of principals are in this category and a further 8% are in their current school for between 16 and 20 years. Looking at principals in their first year in their current school or with one to two years experience, together these categories account for approximately 30% of principals in Ireland. In Austria, these categories account for only 14% of principals.

Table 6.2 Percentages of Principals by Experience as a Principal in Current School – Ireland and Comparison Countries

	First Yr		1-2 yrs		3-5 yrs		6-10 yrs		11-15 yrs		16-20 yrs		More than 20	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
AUT	9.0	(1.88)	5.3	(1.48)	27.7	(3.31)	26.9	(3.30)	14.3	(2.69)	11.6	(2.58)	5.4	(2.19)
BFL	14.4	(3.41)	7.4	(2.06)	21.9	(3.90)	32.7	(4.37)	17.4	(3.09)	3.9	(1.49)	2.2	(1.11)
DNK	10.8	(6.54)	10.3	(2.88)	19.6	(4.50)	25.4	(5.35)	25.4	(6.72)	2.7	(1.40)	5.8	(2.32)
IRL	11.3	(3.00)	17.0	(3.38)	21.2	(3.83)	25.5	(3.91)	14.8	(3.21)	7.7	(2.56)	2.6	(1.56)
NOR	11.6	(2.89)	15.3	(3.17)	27.6	(4.05)	28.2	(3.95)	8.9	(2.44)	3.7	(1.42)	4.6	(1.80)
POL	13.7	(3.34)	13.1	(4.07)	21.7	(4.52)	39.0	(4.49)	6.6	(2.03)	5.9	(2.74)	–	–

Principals also reported on the length of time they had spent as a class teacher prior to becoming principal (Figure 6.3, Table E6.3, Appendix E). In Ireland (53%) and Austria (59%), over half of principals report having spent more than twenty years as a class teacher, prior to becoming principal. In Denmark (19%), Norway (12%) and Poland (12%), greater percentages of principals reported that they had 5 or fewer years experience as a class teacher prior to becoming principal are higher than in Ireland (2%) and Austria (1%), where few principals report this to be the case.

Figure 6.3. Percentages of Principals by Length of Time Spent as Subject/Class Teacher Prior to Becoming Principal – Ireland and Comparison Countries



Management Behaviours of School Principals

TALIS asked school principals to indicate the frequency with which they engaged in a range of activities related to school management, and to indicate their level of agreement with statements about school management. Then, based on factor analysis, responses were distributed over 5 management scales, as follows:

- Framing and communicating the school's goals and curricular development (abbreviated to 'Management of school goals' index) (6 items)
- Instructional improvement and professional development of teachers ('Instructional management' index) (4 items)
- Direct supervision and instruction (4 items)
- Accountability-based management (4 items)

- Bureaucratic management (5 items)

These five scales can be summarised as two main management styles: instructional leadership and administrative leadership. Instructional leadership comprises 'Management of school goals', 'Instructional management', and 'Direct supervision of instruction', while administrative leadership is composed of 'Accountable management' and 'Bureaucratic management'. The constituent elements of these two broad leadership styles are discussed in more detail below, followed by an examination of the two broad management styles.

Instructional Leadership Indices

Table 6.3 describes the items that contributed to the first three indices (Management of school goals, Instructional management, and Direct supervision), which together make up the instructional leadership management scale. There were six items in the 'management for school goals' index, four in 'instructional management' and four in 'direct supervision'. Looking firstly at the 'Management-school goals' index, principals in Ireland show high levels of agreement with each of the statements, with all principals indicating that they agreed or strongly agreed with the statement that, in their school, they work on goals and/or on a school development plan. Over 90% indicated that, 'quite often' or 'very often', they made sure that the professional development activities of teachers are in accordance with the teaching goals of the school, that teachers work according to the school's educational goals, and that there is clarity concerning the responsibility of co-ordinating the curriculum. Just over seven in ten principals in Ireland indicated that they took student exam results into account 'quite often' or 'very often' in decisions regarding the curriculum. The rather high reported involvement of principals in Ireland in decisions related to professional development is surprising, given the relatively low average number of professional development days in which teachers in Ireland engage (see Chapter 3). Principal teachers in comparison countries Austria, Belgium (Fl.), Denmark, Norway and Poland also indicated high of levels engagement with the listed activities/ statements, though in Denmark (38%) and Austria (18%), fewer teachers than in Ireland (74%) reported that they used exam results in decisions regarding curriculum development (Table E6.4, Appendix E). Similarly, just 45% of principals in Denmark reported using student performance results to develop the school's educational goals, compared with 71% in Ireland.

Turning to the instructional management index, we see that again, in Ireland, there are strong levels of engagement reported by principals in co-operating with teachers to solve problems (100%), attending to disruptive behaviour in classrooms (99%), informing teachers of possibilities for updating their knowledge and skills (95%), and taking the initiative to discuss problems with teachers when they became apparent (87%) (Table 6.3). Responses of principals in each of the comparison countries were also above 85% (Table E6.4, Appendix E).

There was more variation in the responses of principals in Ireland and in the five comparison countries to items on the direct supervision of instruction index. In Ireland, just 15% of principal teachers indicated that they observed instruction in classrooms, either 'quite often' or 'very often' (Table 6.3). This is about the same as in Denmark (20%), but

lower than in Austria (30%), Belgium (Fl.) (39%), and Norway (28%), and considerably lower than in Poland (90%) (Table E6.4, Appendix E). Almost 60% of principals in Ireland reported that they monitored students' work, more than in Norway (24%), about the same as in Belgium (Fl.) (61%), and fewer than in Austria (87%), Denmark (96%), and Poland (90%). It is interesting that teachers in Austria report such extensive engagement in monitoring students work, when so few (18%) report using examination results to reach decisions on curriculum development. Finally, in Ireland, 57% of teachers report that they check whether classroom activities are in line with the school's educational goals. One wonders how this operates in practice, since so few principals (15%) report observing in classrooms. Among comparison countries, only in Poland (91%) do significantly more principals than in Ireland report checking whether classroom activities are in line with educational goals.

Table 6.3. Percentages of Principals Who Report Using Various Activities and Behaviours 'Quite Often' or 'Very Often' During the Current School Year on Three Instructional Leadership Scales – Ireland

	%	(SE)
Management-school goals index		
I make sure that the professional development activities of teachers are in accordance with the teaching goals of the school.	95.0	(2.39)
I ensure that teachers work according to the school's educational goals.	96.2	(2.28)
I use student performance results to develop the school's educational goals.	71.1	(4.47)
I take exam results into account in decisions regarding curriculum development.	74.4	(4.34)
I ensure that there is clarity concerning the responsibility for co-ordinating the curriculum.	94.3	(2.31)
In this school, we work on goals and/or a school development plan (% of principals who 'agree' or 'strongly agree').	100.0	(0.00)
Instructional management index		
When a teacher has problems in his/her classroom, I take the initiative to discuss matters.	87.0	(3.44)
I inform teachers about possibilities for updating their knowledge and skills.	94.7	(2.19)
When a teacher brings up a classroom problem, we solve the problem together.	100.0	(0.00)
I pay attention to disruptive behaviour in classrooms.	98.9	(1.08)
Direct supervision of instruction index		
I observe instruction in classrooms.	15.1	(3.43)
I give teachers suggestions as to how they can improve their teaching.	41.1	(4.75)
I monitor students' work.	59.0	(4.82)
I check to see whether classroom activities are in keeping with our educational goals.	57.4	(4.89)

Administrative Leadership Indices

Two indices relate to administrative leadership – accountable management and bureaucratic management. Teachers in Ireland recorded strong agreement with each item contributing to the accountable management index, with 90% or more indicating that key aspects of their work included ensuring that the teaching skills of the staff are always

improving, that teachers are held accountable for the attainment of the school's goals, that new ideas are presented to parents in a convincing way, and that instructional approaches sanctioned by education ministry are explained to new teachers and used by more experienced teachers (Table 6.4). Support for statements on the accountable management scale was more mixed across comparison countries. Fewer principals in Denmark (60%) than in Ireland (90%) indicated that it was part of their job to ensure that ministry-approved instructional approaches are explained to new teachers (Table E6.5, Appendix E). Fewer principals in Austria (69%) than in Ireland (91%) indicated that holding teachers accountable for the attainment of the school's goals was an important part of their job, while fewer principals in Poland (79%) than in Ireland (97%) indicated that an important part of their job was to ensure that the teaching skills of the staff are always improving. Response patterns were similar to those for Ireland on the other statements.

Levels of agreement on four of the five statements on the bureaucratic management scale were at 89% or higher for principals in Ireland (Table 6.4). The exception was 'I stimulate a task-orientated atmosphere in the school', where three-quarters of principals indicated agreement. Principals in the comparison countries generally indicated high levels of agreement with these statements, though principals in Austria (65%), Belgium (Fl.) (51%), Denmark (59%), Norway (76%) and Poland (87%) reported lower levels of agreement with the view that it is an important part of their job to resolve issues with the school timetable or lesson plans than principals in Ireland (97%) (Table E6.5, Appendix E). Similarly, principals in Austria (74%) and Denmark (65%) had lower levels of agreement than principals in Ireland (89%) with the view that it is an important part of their job to check for mistakes and errors in administrative procedures and reports.

Table 6.4. Percentages of Principals who 'Agree' or 'Strongly Agree' with Statements in the Indices of Accountable Management and Bureaucratic Management – Ireland

Accountable management index	%	SE
An important part of my job is to ensure instructional approaches sanctioned by the Department of Education and Science are explained to new teachers, and that more experienced teachers are using these approaches.	89.6	2.61
A main part of my job is to ensure that the teaching skills of the staff are always improving.	96.6	1.73
An important part of my job is to ensure that teachers are held accountable for the attainment of the school's goals.	90.7	2.49
An important part of my job is to present new ideas to parents in a convincing way.	97.0	1.59
Bureaucratic management index		
It is important for the school that I see to it that everyone sticks to the rules.	95.9	1.70
It is important for the school that I check for mistakes and errors in administrative procedures and reports.	88.6	2.88
An important part of my job is to resolve problems with the timetable and/or lesson planning.	97.1	1.73
An important part of my job is to create an orderly atmosphere in the school.	100.0	0.00
I stimulate a task-oriented atmosphere in this school.	74.7	4.09

Comparing the Instructional and Administrative Leadership Indices

Table 6.5 gives the mean scores on each of the school leadership style indices for each comparison country, as well as the corresponding TALIS country average scores. Caution is urged in comparing countries with one another on these indices, since their full comparability was not established (Appendix C; OECD, in press). Nevertheless, it is valid to compare mean scores within countries, and to relate mean scores to the corresponding TALIS country averages scores. In Ireland, the mean scores on Management of school goals and Accountable management are significantly above the corresponding TALIS country average scores, while mean scores on Instructional management and Direct supervision of instruction are significantly below it. The mean score on Bureaucratic management does not differ significantly from the TALIS country average. It is surprising that Ireland falls below the TALIS country average on the Instructional management index since principal teachers in Ireland reported frequent engagement in activities contributing to it (Table 6.1). On the other hand, principal teachers in Ireland did not give strong endorsement to items on the Direct supervision index (for example, just 15% indicated that they observed instruction in classrooms).

Among comparison countries, principal teachers in Denmark are above the TALIS country average on Instructional Management, but significantly below it on the other four scales. Principals in Austria are well below the TALIS country average on Management of school goals, and significantly above the TALIS country average on the Instructional management. Finally, principal teachers in Poland are above the TALIS country average on all three instructional leadership indices, and significantly below it on the both administrative leadership indices.

Table 6.5. Mean Scores on the Management Indices – Ireland, Comparison Countries, and TALIS Average

	Management – School Goals		Instructional Management		Direct Supervision of Instruction		Accountable Management		Bureaucratic Management	
	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)
Austria	-0.99	(0.05)	0.14	(0.06)	-0.47	(0.04)	-0.11	(0.06)	0.00	(0.05)
Belgium (Fl.)	-0.34	(0.08)	-0.15	(0.07)	-0.40	(0.05)	0.63	(0.06)	0.28	(0.06)
Denmark	-0.77	(0.13)	0.88	(0.09)	-0.88	(0.03)	-1.65	(0.07)	-1.37	(0.05)
Ireland	0.30	(0.08)	-0.24	(0.07)	-1.31	(0.07)	0.30	(0.07)	0.10	(0.07)
Norway	-0.31	(0.06)	0.12	(0.07)	-0.68	(0.04)	0.79	(0.06	0.31	(0.06)
Poland	0.83	(0.08)	0.25	(0.08)	0.94	(0.03)	-0.27	(0.06)	-0.14	(0.06)
TALIS Avg.	0.0	(0.02)	0.0	(0.02)	0.0	(0.01)	0.00	(0.02)	(0.00)	(0.01)

Source: OECD (2009a), Table 6.2
Mean scores that are not significantly different from the corresponding TALIS country average are shaded in grey.

The components of the five indices are related to one another (Table 6.6). For example, the correlation between Instructional management and Management of school goals is 0.55.

This indicates that principals in Ireland report holding views consistent with the two aspects of leadership at the same time.

Table 6.6. Correlations Between School Leadership Styles – Ireland

	Management-school goals		Instructional management		Direct supervision of instruction in the school		Accountable management	
	r	(SE)	r	(SE)	r	(SE)	r	(SE)
Instructional	0.55*	(0.067)						
Direct supervision	0.51*	(0.061)	0.36*	(0.079)				
Accountable	0.44*	(0.066)	0.35*	(0.080)	0.41*	(0.077)		
Bureaucratic	0.22†	(0.093)	0.19†	(0.092)	0.31*	(0.078)	0.39*	(0.079)

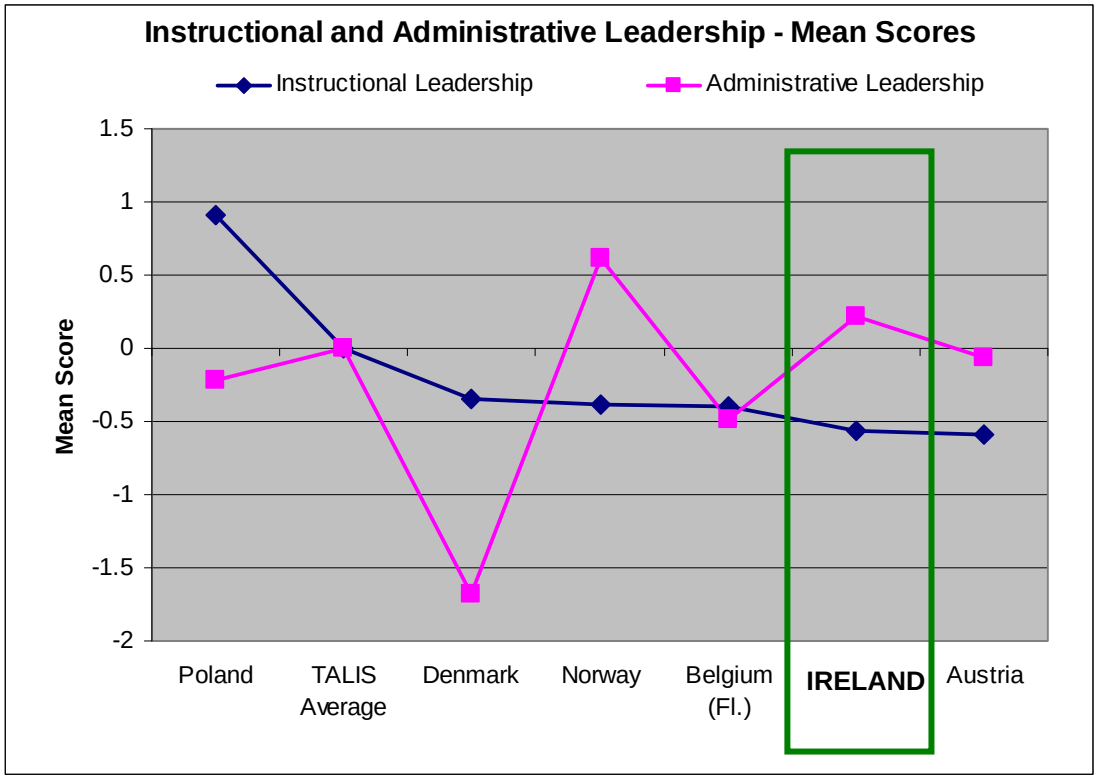
*Statistically significant, p<0.01, †Statistically significant, p<0.05.

Contrasting Instructional Leadership and Administrative Management Styles

As noted above, the five management indices were combined by the OECD to form two management style scales – instructional leadership (based on the first three indices) and administrative leadership (based on the last two). The leadership style scales are not intended to be mutually exclusive in that principal teachers could report endorsement of activities associated with both scales. Again, caution is urged in drawing comparisons between countries on the scales. In Ireland, principals indicate a stronger engagement with administrative leadership than with instructional leadership, a pattern that is also observed in Norway and Austria (see Figure 6.4). In contrast, as noted above, principal teachers in Poland tend to prioritise instructional leadership over administrative leadership. In Denmark, principals report that they rarely engage in administrative leadership at all. It is argued in the literature (e.g., Pont, Nusche & Moorman, 2008) that an instructional leadership style that is more strongly associated with effective school management. Principals in Poland and Denmark seem to operate more often on this basis than their colleagues in Ireland, Norway and Austria.

The OECD characterises Ireland and Norway as countries with relatively high administrative leadership scores, and relatively low instructional leadership scores (OECD, 2009a, Figure 6.2). Austria and Belgium (Fl.) are characterised as having low scores on both instructional and administrative leadership, while Poland is characterised as having a high score on instructional leadership and a low one on administrative leadership. In Ireland, the correlation between instructional leadership and administrative leadership is 0.47 ($p<0.01$). Again, this indicates that the two leadership styles are not mutually exclusive, with some principal teachers indicating strong endorsement of the activities associated with both scales.

Figure 6.4. Country Mean Scores on Instructional and Administrative Leadership Scales – Ireland, Comparison Countries and TALIS Country Average



Source: OECD (2009a), Table 6.3

Explaining the Management Styles of School Principals

In this section, associations between the management styles of principals (i.e., instructional vs. administrative) and several school and teacher variables are examined, including characteristics of principals and schools, characteristics of evaluations of school performance, teachers' beliefs about the nature of teaching and learning, teachers' classroom practices, teachers' professional activities, classroom environment and school climate for learning, aspects of teacher appraisal and feedback, and teachers' engagement in and need for professional development. The analyses involving principals' leadership styles and the backgrounds of principals and schools are based on descriptive statistics, including correlations, while those between principals' leadership styles and teachers' beliefs, practices, views on classroom/school climate, and professional development needs are based on multi-level linear regressions[1]. It should be noted that the two variables, principal teachers' use of an instructional leadership style, and principal teachers' use of an administrative leadership style, are continuous variables, and hence principal teachers may use either or both styles in varying degrees.

Principal Teacher and School Background Variables

Across countries in TALIS, relationships between management styles and school autonomy in decision making were weak, with neither administrative nor instructional

[1] The specific control variables for each regression may be found in the relevant table in OECD (2009a).

leadership styles being consistently associated with higher levels of school autonomy. Belgium (Fl.), Denmark, Norway, Ireland and Poland are characterised as having high levels of school autonomy in decision making, and Austria as having a low level (see Chapter 2). However, as indicated above, principal teachers in these countries vary in terms of average use of an administrative leadership style, and all, except those in Poland, report relatively low usage of an instructional leadership style.

In general across TALIS countries, including Ireland and comparison countries Belgium (Fl.) and Denmark, there was a positive association (correlation) between the extent of principal teachers' reported use of an instructional leadership style and the extent to which they held constructivist beliefs about instruction (OECD, 2009a, Table 6.12). However, an association between using an administrative leadership style and constructivist beliefs about instruction was also found for school principals in 14 TALIS countries including Ireland and comparison countries Denmark and Poland (OECD, 2009a, Table 6.13).

In eight TALIS countries, including Denmark, Norway and Poland (but not Ireland), female principal teachers were more likely than their male colleagues to report using an instructional leadership style. In two TALIS countries, including comparison country Norway, female teachers were also more likely than their male colleagues to report using an administrative leadership style.

In Denmark and Ireland, holding a masters degree or higher was positively associated with using an instructional leadership management style, while in Norway but not in Ireland, holding a masters degree or higher was positively associated with using an administrative leadership style. Among principal teachers in Poland, there was a negative association between holding a masters degree or higher, and using an instructional leadership style.

In Ireland, just two additional background variables were positively associated with use of an instructional leadership style. Principal teachers working in schools located in villages (defined as communities with fewer than 3000 people) and in schools located in towns (between 3000 and 100,000 people) were less likely than principal teachers in other communities (including cities) to report the use of an instructional leadership style. These associations were found in just one additional TALIS country (Malaysia).

TALIS also sought to identify associations between various aspects of school evaluation and use of instructional and administrative management styles by school principals. In Ireland, just one school evaluation variable, use of student test scores as a criterion in school evaluations, was positively associated with using an administrative management style, and none showed a negative association (OECD, 2009a, Table 6.13). Just two variables showed statistically significant relationships with management styles across about one-third of countries:

- In seven countries, including Austria and Belgium (Fl.), having two or more school evaluations in the previous five years is more strongly associated with principal teachers' use of an instructional leadership style than is having fewer.

- In eight countries, including Belgium (Fl.) and Norway, use of innovative teaching practices as a criterion in school evaluations is associated with higher usage of an instructional leadership style by school principals.

Subject Teachers' Beliefs, Practices and Professional Activities

In Chapter 4, two scales relating to teachers' beliefs about pedagogy were described: constructivist and direct transmission beliefs about instruction. The former described teachers as facilitators of learning who gave autonomy to students; the latter described teachers as instructors who provided information and demonstrated solutions. This section considers possible associations between principal teachers' management styles and teachers' pedagogical beliefs drawing on multi-level linear regressions where teachers' backgrounds and conditions within schools were controlled for (OECD, 2009a, Table 6.4). Across TALIS countries, the degree to which a principal reported using administrative or instructional leadership management styles was found to be unrelated to the pedagogical views of teachers in the school. In three countries, including comparison country Belgium (Fl.), there was a positive association between instructional leadership and teachers' direct transmission beliefs, while just one country (Mexico) showed a positive association between instructional leadership and teachers' constructivist beliefs. The failure to find significant associations between management styles and teacher beliefs may arise from the fact that, in most TALIS countries, teachers held both constructivist and direct instruction beliefs.

In Chapter 4, three indices describing teachers' instructional practices were also reported: structuring practices, student-orientated practices and enhanced learning activities. Again, multi-level linear regression models were developed to establish whether there were statistically significant associations between principals' use of different management styles and teachers' pedagogical practices, controlling for teacher background and school demographic characteristics. Across TALIS countries, there are very few significant associations among these variables. In Ireland and Italy, however, there were positive associations between principals' use of an instructional management style and teachers' use of enhanced activities, while in two other countries (Iceland and Mexico), the association was significant but negative (OECD, 2009a, Table 6.5).

Teachers' co-operative activities were described in Chapter 4 as consisting of either exchange/co-ordination for teaching (involving informal exchange or discussion of teaching materials, attendance at team conferences, and ensuring common standards) or professional collaboration (involving team teaching, observing other teachers to provide feedback, and engaging in professional learning activities). Again using multi-level linear regression, there was a positive association in 6 TALIS countries including comparison country Poland (but not Ireland) between use of an instructional leadership style and exchange and co-ordination for teaching. Similarly, there was a positive association in 6 countries including comparison countries Norway and Poland, but not Ireland, between professional collaboration and instructional leadership (OECD, 2009a, Table 6.6).

Classroom Climate and School Climate for Learning

Chapter 4 also described aspects of classroom and school climates for learning, including the degree of disruptive behaviour and lack of attention by students (classroom climate), the amount of time allocated to instruction rather than management ('time on task') and relations between teacher and students (teacher-student relations). Again using multi-level linear regression, and controlling for selected characteristics of principal teachers and schools, no clear associations were observed between principals' management styles and these classroom or school climate variables. However, in the case of six countries, including comparison country Denmark (but not Ireland), schools with principals who use an instructional leadership style tend to have teachers who reported more positive teacher-student relations (OECD, 2009a, Table 6.7).

Evaluation Criteria for Teacher Appraisal and Feedback

TALIS asked principals about the importance of different criteria for teacher appraisal and feedback (Chapter 5). Among the criteria identified as being important for effective instruction were student learning outcomes (use of student test scores, retention and pass rates of students), innovative teaching, and teachers' participation in professional development.

Again, based on data from multi-level linear regressions on management styles, after controlling for a range of principal and school variables, a stronger instructional leadership style was positively associated with use of student test scores in teacher appraisal and feedback in six countries, including comparison countries Austria, Belgium (Fl.) and Norway, but not Ireland (OECD, 2009a, Table 6.9). On the other hand, greater use of an administrative leadership style was positively associated with use of test scores in four countries, including comparison countries Austria and Denmark, and negatively associated with use of test scores in two countries. Hence, on balance, there is no clear relationship between management style and use of test scores. Other findings can be summed up as follows:

- In six countries, including Ireland but none of the comparison countries, a positive association was observed between use of an instructional leadership style by school principals and use of retention and pass rates of students as a criterion in teacher appraisal and feedback. Just two countries (comparison countries Denmark and Norway) showed a positive relationship between use of an administrative leadership style by principal teachers and use of student retention and pass rates as a criterion in teacher appraisal and feedback.
- In 13 countries, including Ireland, but none of the comparison countries, there was a positive association between use of an instructional leadership style by school principals and use of number of days of professional development undertaken by teachers as a criterion in teacher evaluations. Just four countries, including comparison country Austria, showed a positive relationship between use of an administrative leadership style and use of number of days of professional development undertaken as a criterion in teacher appraisal.

- In 10 countries, including comparison country Poland but not Ireland, there was a positive association between use of an instructional leadership style by school principals and use of innovative teaching practices as a criterion in teacher appraisal and feedback. Only in Austria and Denmark was there a positive association between use of an administrative leadership style and use of innovative teacher practices.

On balance across TALIS countries, it seems that the use of an instructional leadership style is more strongly associated than use of an administrative leadership style with criteria for teacher appraisal and feedback that are often characterised as being related to effective teaching – i.e., use of student learning outcomes, professional development undertaken by teachers, and innovative teaching practices.

Feedback and Consequences of Teacher Appraisal

This section looks at associations between principal teachers' management styles and outcomes of teacher appraisal and feedback. Using multi-level linear regression, and controlling for principal and school characteristics, an association was found in 17 TALIS countries, including comparison countries Austria, Belgium (Fl.) and Norway, but not Ireland, between principals' use of an instructional leadership style and establishment of a training plan for teachers to address weaknesses in their teaching (OECD, 2009a, Table 6.10). The lack of a significant relationship for Ireland may reflect the relative infrequency with which development plans are prepared for teachers following appraisal in Ireland (Chapter 5). No TALIS country showed a significant relationship between use of an administrative leadership style by principal teachers and development of a training plan. In five countries, including comparison country Norway, but not Ireland, there was a positive association between use of an instructional leadership style and reporting of underperformance in teaching to another body to take action. Interestingly, just one country (the Slovak Republic) showed a positive relationship between use of an instructional leadership style by principal teachers and the imposition of material sanctions on teachers following appraisal, while five countries, including comparison country Norway, but not Ireland, showed a positive association between use of an instructional leadership style and reporting of underperformance to another body to take action following teacher appraisal. Ireland was the only country with a significant association between use of an administrative leadership style and reporting underperformance to another body. The association was negative, indicating that principal teachers embracing a weaker administrative leadership style tend to work in schools where underperformance is reported to another body to take action.

Teachers' Participation in Professional Development

It might be expected that principal teachers who use a stronger instructional leadership style would work with teachers who engage in professional development more often and identify greater needs for professional development than teachers who work with principals who adopt a weaker instructional leadership style, or who prefer an administrative style. TALIS provides limited evidence for this. Using multi-level linear regression, and controlling for teacher and school background variables, a positive and

significant relationship between use of an instructional leadership style and number of days of professional development in the previous 18 months was observed in one country (Iceland) and a negative and significant relationship in another (Malta). There was also a positive association between use of an administrative leadership style and number of days of professional development in both Iceland and Malta, as well as in Spain. Associations between principal teachers' management styles and teachers' professional development needs were also mixed, and were not observed for any of the comparison countries or for Ireland.

Conclusion

The primary purpose of including a chapter about school management in the TALIS report was to investigate relationships between principal teachers' management styles and teaching and learning in schools. Hence, the current chapter was not intended to provide detailed information about the work of school principals in participating countries, or to describe management structures in schools in any great depth.

Despite being characterised as having a preference for an administrative leadership style over an instructional leadership style, principal teachers in Ireland reported levels of involvement that were in excess of 90% on half of the 14 items on which the instructional leadership index is based (Table 6.3). It is only on the questions dealing with direct supervision of classroom instruction that teachers in Ireland indicate low levels of involvement, with, for example, just 15% reporting that they observe instruction in classrooms, and 41% stating that they give teachers suggestions on how they can improve their work. Clearly, as noted in Chapter 5, the involvement of school principals, and, more broadly, senior school management, in directing teachers' professional practices and providing teachers with feedback may need to be strengthened.

Although 95% of principal teachers in Ireland indicate that they inform teachers about the possibilities for updating their knowledge and skills, and 95% also 'make sure that professional development activities of teachers are in accordance with the teaching goals of schools', it is unclear in what context these activities occur. Given the relatively low intensity of professional development for teachers in Ireland, it may be that principal teachers conduct these 'instructional leadership' activities in the narrow context of 'official' professional development days linked to changes in syllabi/examinations and national programmes rather than in the broader context of teachers' broader professional development needs, including individual and 'unmet' needs.

At least 89% of principal teachers in Ireland 'agreed' or 'strongly agreed' with eight of the nine statements contributing to the administrative leadership scale. The exception was 'I stimulate a task-orientated atmosphere in this school' – a statement with which just 75% of principal teachers in Ireland indicated these levels of agreement. Given these high overall levels of agreement, it is not surprising that Ireland was well above the TALIS country average on the administrative leadership index. If it is accepted that the TALIS management style indices are valid indicators of principal teachers' use of administrative

and instructional leadership styles, it would seem that principal teachers in Ireland need to consider a shift from management activities associated with administration to those associated with instructional leadership activities. It is recognised that, to achieve such a shift, it might be necessary to devolve some of the administrative activities that are currently required of principal teachers.

There is only limited support in TALIS for the argument that a stronger instructional leadership style on the part of school principals is associated with more positive teacher beliefs and practices, or with teachers' engagement in professional development activities. Considering the full set of 22 multi-level linear regressions run by the OECD and drawn on in this chapter, there were significant statistical effects for principals' leadership styles in Ireland in just three (teachers' implementation of enhanced instructional activities, inclusion of retention and pass rates of students as a criterion in teacher evaluations, and inclusion of professional development undertaken by teachers as a criterion). In all cases, positive associations with use of an instructional leadership style were observed.

The evidence for links between instructional leadership and other teacher outcomes is stronger when we review outcomes across all TALIS countries. Indeed, 17 countries (not including Ireland) show a link between principals' use of an instructional leadership style and preparation of a development or training plan for a teacher to address weaknesses identified during an appraisal of their teaching. There was also evidence of links between principal teachers' use of instructional leadership and use of the professional development undertaken by teachers as a criterion for teacher appraisal (there were positive associations in 13 countries) and between principal teachers' use of an instructional leadership style and the implementation of innovative teaching practices as a criterion for teacher appraisals (10 countries).

What are the implications of this? TALIS would seem to suggest that adoption of a stronger instructional leadership approach to management by school principals could lead to a number of events that are mediated by either principals themselves, or by teachers, that may ultimately contribute to enhanced teaching and learning experiences for students. These include use of professional development undertaken as a criterion in teacher appraisal, use of innovative teaching as a criterion in teacher appraisal, and establishment of a professional development plan to address weaknesses in teaching following teacher appraisal. However, care must be exercised in drawing such inferences since the analyses on which they are based do not support causality.

Ireland is not unique with respect to the absence of a strong use of an instructional leadership style among school principals. This seems to hold true in four of the five comparison countries (Austria, Belgium (Fl.), Denmark, and Norway) as well, where principal teachers' preference for an instructional leadership style is also well below the TALIS country average. If the OECD is correct about the importance of an instructional leadership style, cultural change may be called for among school leaders and, perhaps, policy makers in education, in a number of European countries so that a stronger emphasis on instructional leadership can be achieved.

7. Key Factors Associated with Effective Learning Environments

In Chapter 4, it was noted that teacher background characteristics are differentially associated with teacher self-efficacy and classroom disciplinary climate (in Ireland, self-efficacy was not significantly associated with teacher gender, main subject taught, teaching experience or teacher qualifications, while classroom climate was positively associated with gender, subject taught and teaching experience). As both of these represent important outcome variables which could be associated not only with teacher background characteristics, but also with a broad range of other teacher and school variables, the OECD produced multiple regression models of self-efficacy and classroom climate.

This chapter begins with a description of the OECD's (2009a) multiple regression models. Firstly, self-efficacy is discussed and then classroom climate, focussing in particular on outcomes for Ireland. Reference is also made to comparison countries. A new multi-level model of classroom climate in Ireland is then presented which was developed for the current report and represents an extension of the OECD's work. The procedure used to develop the model is outlined. It is followed by a discussion of the interpretation of the model. The chapter ends with conclusions based on the regressions and multi-level model.

Teacher Self-Efficacy

The index of teacher self-efficacy is a composite of four items which measure teachers' reported success in educating students in their classes (see Table 4.17, Chapter 4). It has a TALIS country mean of zero and a standard deviation of one. Teachers in Ireland report comparatively high levels of self-efficacy, with a mean score above the TALIS average (mean=0.30, sd=1.13). The self-efficacy of teachers in Ireland was discussed in detail in Chapter 4. As the between-school variance on the self-efficacy scale in Ireland is very low (2.3%), multi-level modelling is not employed in this chapter for this variable.

Details of the methods used in the multiple regression analysis of self-efficacy are provided by the OECD (2009a, pp.284-287) and summarised in Appendix F. Seven blocks of independent variables were used in the analyses. These are:

- School socioeconomic background (e.g., at teacher level: the ability of students in the class relative to average at same grade level more generally; at school level: the proportion of students speaking the language of instruction as a first language)
- Teacher characteristics (e.g., years of experience, gender)
- Teacher professional development (e.g., number of days completed)
- Teacher beliefs and practices (e.g., use of structuring practices)
- Teacher appraisal and feedback (e.g., frequency of appraisal or feedback)

- School leadership (e.g., index of instructional management)
- School autonomy and resources (e.g. index of school climate: student delinquency).

Results of the OECD (2009a) multiple regressions of self-efficacy for Ireland and comparison countries are outlined in Table 7.1. Only variables which were statistically significant in the final model for at least one country are given, i.e., variables which were dropped from all models are not shown. Coefficients and associated standard errors for Ireland are presented in Table F7.1 (Appendix F); coefficients for other countries are available online[1]. For each variable in Table 7.1, there is an indication of whether its relationship with teacher self-efficacy is positive or negative in each of the countries presented. Markers indicate that the variable is significantly associated with teacher self-efficacy after controlling for each of the other variables in the table; blank cells indicate that the association was not statistically significant. In the discussion that follows, differences in self-efficacy are discussed in terms of Irish standard deviation units; the standard deviation of the self-efficacy scale in Ireland is 1.13. Findings for Ireland are discussed before considering results of comparison countries.

In Ireland, no variables from Blocks 1, 2 or 3 are significantly associated with teacher self-efficacy, i.e., neither the socioeconomic background of students in the school, nor teacher demographic characteristics, nor teachers' participation in professional development activities are significantly associated with teacher self-efficacy. Only one variable from Block 7 (School autonomy and resources) is significantly associated with teacher self-efficacy in Ireland. Teachers working in community, comprehensive and vocational schools (termed 'public' by the OECD, see Table 7.1) are found to have somewhat lower self-efficacy scores than teachers working in secondary schools (termed 'private' by the OECD). This difference between teachers in the different school types equates to almost one-eighth of a standard deviation (Table F7.1, Appendix F). The OECD (2009a, Table 7.9a) advises caution in interpreting this finding, given the high level of missing data on the public school variable in Ireland. This arises because although 142 Irish schools participated in TALIS, only 120 principals returned questionnaires and school type was not interpolated for the remaining schools. The regression analysis does not allow a distinction to be made between teachers in community, comprehensive and vocational schools as these are grouped together under the category 'public'.

Teachers in Ireland who hold stronger beliefs about instruction, whether direct transmission or constructivist, are found to have higher levels of self-efficacy. Similarly, in Ireland, higher teacher self-efficacy is associated with more frequent use of either structuring practices or enhanced activities, or both. Teachers who reported that their appraisal led to greater recognition from the principal and/or their teaching colleagues have higher levels of self-efficacy than those who did not report that their appraisal had such an outcome. For all countries, the OECD recommends caution when interpreting the finding of a significant association between teacher self-efficacy and receiving public recognition as a result of an appraisal, given the high levels of missing data on this variable.

[1] http://www.oecd.org/dataoecd/55/12/43089354.xls

Table 7.1. Multiple Regressions of Teacher Self-efficacy – Ireland and Comparision Countries

Variables Associated with Teacher Self-Efficacy in 'Final Model'[1]	Austria	Belgium (Fl.)	Denmark	**Ireland**	Norway	Poland
Block 1. Socioeconomic background						
High average student ability in classroom (T)	+		+		+	+
Low average student ability in classroom (T)	–	–	–		–	
Proportion of students in class with parent with degree, or higher (T)	+					
Proportion of students in class speaking language of instruction (T)						+
Ability of students in school higher than average (S)			+			
Ability of students in school lower than average (S)			+			
Block 2. Teacher characteristics						
Gender (Female – Male) (T)						–
Teacher education (Masters or above – Degree or below) (T)		–			+	
Teacher employed full time (T)	+		+			
Teacher contract status permanent (T)		+	+		+	
Years of teaching (T)	–					
Block 3. Teacher professional development						
Number of days of professional development (T)			+			
Block 4. Teacher beliefs and practices						
Index of teacher-student relations (T)	+	+	+	**+**	+	+
Index of teaching practices – structuring (T)	+	+		**+**	+	–
Index of teaching practices – student-oriented (T)	+					
Index of teaching practices – enhanced activities (T)	–			**+**		+
Index of direct transmission beliefs (T)	+	+	+	**+**	+	+
Index of constructivist beliefs (T)	+	+	+	**+**	+	+
Index of exchange and co-ordination for teaching (T)					+	
Index of professional collaboration (T)	+	+				+
Block 5. Teacher appraisal and feedback						
Appraisal impact – recognition from principal/colleagues (T)[3]	+	+		**+**	+	
Block 6. School leadership						
Index of accountability role of the principal (S)				**+**[3]		
Block 7. School autonomy and resources						
Index of school climate – teachers' working morale (S)	–					
Index of school resources – shortage of materials (S)	+					
Index of school autonomy – hiring, determining salaries (S)		–				
Index of school autonomy in budgeting (S)						–
Public school[2] (S)				**–**[3]	+	

[1]Letter in brackets indicates whether variable relates to teacher or school (T: Teacher; S: School)
[2]Community, comprehensive or vocational school in Ireland
[3]High rates of missing values on this variable for all countries or for a specific country
+: positive relationship with teacher self-efficacy; –: negative relationship with teacher self-efficacy
Source: OECD (2009a), Tables 7.4 to 7.9a.

Teacher student-relations are also positively associated with teacher self-efficacy in Ireland. Finally, in Ireland, higher teacher self-efficacy is found in schools where the principal scores high on the accountability management index (after controlling for other variables), although again, high rates of missing data on the accountability variable mean that this finding should be treated with caution.

Turning to the association between teacher self-efficacy and the various background variables in the comparison countries, it can be seen that although the models for the different countries differ from one another in a number of ways, there are some commonalities. The most consistent associations with self-efficacy are found between the variables in Block 4 'Teachers' beliefs and practices'. Holding stronger beliefs about instruction, whether direct transmission or constructivist, is associated with higher self-efficacy in each of the comparison countries, as well as in Ireland. Similarly, in each of the comparison countries, as in Ireland, better teacher-student relations are positively associated with teacher self-efficacy. Teachers' frequency of using structuring practices is associated with self-efficacy in each of the comparison countries, apart from Denmark. In Ireland, Austria, Belgium (Fl.) and Norway, the association between the two is positive. However, in Poland, teachers who use structuring practices with greater regularity report lower levels of self-efficacy.

Other variables associated with self-efficacy in at least four countries are: higher than average student ability in the classroom (positive association), lower than average student ability in the classroom (negative association), and recognition from the principal or colleagues as a result of appraisal (positive). In three countries (although not in Ireland), teachers who hold permanent contracts report higher levels of self-efficacy than teachers with temporary contracts. Also, in three of the comparison countries (but not in Ireland), teachers who report higher levels of professional collaboration report higher levels of self-efficacy.

Classroom Disciplinary Climate – International Comparisons

Teachers in TALIS were asked to rate the disciplinary atmosphere in a randomly selected Junior Cycle class by indicating their level of agreement with a series of four statements, including for example, the amount of noise in the classroom and how much time is lost because of students' interruptions (see Table 4.9, Chapter 4). From the four items measuring disciplinary climate, an index was constructed with a TALIS country mean of zero and a standard deviation of one. Classroom climate in Ireland is found to be positive (mean=0.21, sd=1.08) and above the TALIS average. On average across TALIS countries, it was found that variation in classroom climate is mainly accounted for by differences between teachers, rather than by differences between schools. Therefore, for most TALIS countries, ordinary least squares regression was the preferred approach for modelling classroom climate.

In this section, results of the OECD's (2009a) multiple regressions of classroom climate for Ireland and comparison countries are examined and differences between the

countries are discussed. Table 7.2 summarises the variables that are significantly associated with classroom disciplinary climate; for each variable, there is an indication of whether its relationship with classroom climate is positive or negative. Coefficients for the Irish model are presented in Table F7.2 (Appendix F).

In Ireland, high average student ability in the classroom, and increasing proportions of students in the classroom with at least one parent who has a third-level degree, are associated with a more positive classroom climate. Having students of low average ability in the classroom, and/or in general in the school, is associated with a poorer classroom climate. Teachers who are employed full-time or on permanent contracts report better classroom disciplinary climates. Teachers who report better teacher-student relations in general in the school also report better disciplinary climates in their classrooms. More frequent use of structuring practices by teachers is also associated with positive classroom climate. Student delinquency in the school, and larger average class sizes in the school, negatively impact on classroom climate.

Across comparison countries, high average student ability is consistently associated with better classroom climate. Conversely, low average student ability is consistently associated with poorer classroom climate. Also, as in Ireland, better teacher-student relations are associated with positive classroom climate in all comparison countries, while larger average class sizes in the school are associated with poorer classroom climates in four of the five comparison countries. In each of the comparison countries, but not in Ireland, more experienced teachers report better classroom climates.

Other variables are not as consistently related to classroom climate. In Austria, Belgium (Fl.) and Poland, as in Ireland, classroom climate improves as the proportion of students with a parent with a third-level degree increases. In Belgium (Fl.), Norway and Poland, as in Ireland, teachers with permanent contracts report more positive classroom climates. In Austria and Belgium (Fl.), like in Ireland, more frequent use of structuring practices by teachers is associated with better classroom climate. In three countries, although not in Ireland, teachers who hold stronger direct transmission beliefs indicate that classroom climate is poorer.

Table 7.2. Significant Variables in Final Multiple Regressions of Classroom Disciplinary Climate – Ireland and Comparision Countries (2007-08)

Variables Associated with Classroom Disciplinary Climate in 'Final Model'[1]	Austria	Belgium (Fl.)	Denmark	**Ireland**	Norway	Poland
Block 1. Socioeconomic background						
High average student ability in classroom (T)	+	+	+	**+**	+	+
Low average student ability in classroom (T)	–	–	–	**–**	–	–
Proportion of students in class with parent with degree, or higher (T)	+	+		**+**		+
Ability of students in school higher than average (S)			+			
Ability of students in school lower than average (S)				**–**		–
Block 2. Teacher characteristics						
Gender (Female – Male) (T)	+		+			
Teacher education (Masters or above – Degree or below) (T)					–	
Teacher employed full time (T)	+			**+**		
Teacher contract status permanent (T)		+		**+**	+	+
Years of teaching (T)	+	+	+		+	+
Block 3. Teacher beliefs and practices						
Index of teacher-student relations (T)	+	+	+	**+**	+	+
Index of teaching practices – structuring (T)	+	+		**+**		
Index of teaching practices – student-oriented (T)	+					+
Index of teaching practices – enhanced activities (T)	–	–				
Index of constructivist beliefs (T)						+
Index of direct transmission beliefs (T)		–			–	–
Index of exchange and co-ordination for teaching (T)	+					
Index of professional collaboration (T)	–					
Block 5. Teacher appraisal and feedback						
Effective teachers receive more rewards in the school (T)					–	
Important for teacher appraisal – student test scores (T)			+			
Appraisal impact – recognition from principal/colleagues (T)		+				
Block 6. School leadership						
Index of bureaucratic management					+	
Block 7. School autonomy and resources						
Index of school climate – student delinquency (S)				–		
Index of a lack of personnel (S)	–					
Index of school resources – shortage of materials (S)						+
Index of school autonomy – hiring, determining salaries (S)	–					+
School average class size	–	–	–	**–**	–	
Public school[2]			–			

[1]Letter in brackets indicates whether variable relates to teacher or school (T: Teacher; S: School)
[2]Community, comprehensive or vocational school in Ireland
+: positive relationship with classroom disciplinary climate; –: negative relationship
Source: OECD (2009a), Tables 7.4 to 7.9a.

A New Model of Classroom Climate in Ireland

The next two sections of this chapter outline a multi-level model of classroom climate in Ireland developed using the TALIS data. The second section, focussing on the interpretation of the model, may be of greater interest to readers who are not concerned with the technical details of the modelling process.

Procedures Used for Multi-level Modelling

Given that between-school variance in classroom climate in Ireland is approximately 12%, it is useful to attempt to explain variance at both the school- and teacher-levels (see Box 4.1 for an explanation of variance decomposition). A multi-level model offers this possibility. There are a number of theoretical differences between the multi-level model in this section and the multiple regression models above; namely, in the multi-level model, the variance in classroom climate is partitioned into between- and within-school levels; and, the multi-level model, but not the multiple regression, allows for examination of cross-level interactions between teacher and school variables. The multi-level model also allows analysis of random slopes, i.e., looking at whether or not the effects of teacher-level variables vary across schools. The main practical difference between the two in this report is that in the multi-level model, a number of national variables were examined for significance, whereas only variables in the international dataset were considered in the multiple regression.

In previous chapters, schools were classified as 'disadvantaged' or 'not disadvantaged' under the 'Designated Disadvantaged' scheme as this was used as a stratifying variable in drawing the TALIS sample. This scheme has since been superceded by DEIS (Delivering Equality of Opportunity in Schools, see Department of Education and Science, 2005), one aspect of which is a School Support Programme for schools serving large numbers of pupils from disadvantaged backgrounds. Prior to the rollout of DEIS, schools were awarded a score based on a number of socioeconomic factors and educational outcomes. Schools were then ranked by their DEIS score and, at post-primary level, approximately 200 schools with the highest scores were selected for participation in the School Support Programme (SSP). As participation in the School Support Programme under DEIS is now the most up-to-date indicator of disadvantage available, this is used in the current model as an indicator of disadvantage at the school level. In the present model, a binary variable was used representing whether or not a school is in the SSP rather than a continuous variable representing a school's DEIS score.

A hierarchical linear model with random components at the cluster and individual levels was fitted using HLM 6.0 (Raudenbush, Bryk & Congdon, 2004), following the steps outlined below.

Firstly, conceptually-related blocks of variables were constructed based on the OECD variable blocks and additional national variables. Variables, both national and international, which were analysed in the multi-level model, are presented in Table 7.3.

Table 7.3. Candidate Variables for Multi-level Model of Classroom Climate – Ireland

Variable	Description
School-Level Variables	
Block 1. School structural and socio-economic characteristics	
Class size	School average class size (mean=21.1, sd=3.70)
Proportion of students – low ability	Proportion of teachers in the school indicating that students are below average ability, compared to students in the same year more generally (mean=0.24, sd=0.19). (Aggregate from teacher level)
Proportion of students – high ability	Proportion of teachers in the school indicating that students are above average ability, compared to students in the same year more generally (mean=0.28, sd=0.17). (Aggregate from teacher level)
Proportion of students who speak a foreign language at home (as indicated by teachers)	Proportion of students in the school that have a home language different to the language of instruction (mean=0.15, sd=0.08). (Aggregate from teacher/classroom level)
Proportion of students whose parents have a degree (as indicated by teachers)	Proportion of students whose parents have completed Third Level education to at least undergraduate degree level (mean=0.30, sd=0.17). (Aggregate from teacher level)
School Support Progamme under DEIS[b]	School is in SSP under DEIS (Delivering Equality of Opportunity in Schools) programme. 1=Yes (32.5%), 0=No (67.5%).
School Type[b] Community/Comprehensive Secondary Vocational	Dummy indicator set for school type, with *secondary* as reference category. (Comm/Comp=13.4%, Secondary=54.4%, Vocational=32.1%).
School Gender Composition[b]	1=mixed sex (63.1%), 0=single sex (36.9%)
School Size[b] Small (≤ 120 Junior Cycle students) Medium (121 – 240 Junior Cycle students) Large (> 240 Junior Cycle students)	Dummy indicator set for school size, with *medium* as reference category. (Small=16.9%, Medium=36.2%, Large=46.8%).
School Location Rural (<3000 people) Town (3,000 – 100,000 people) City (>100,000 people)	Dummy indicator set for school location, with *town* as reference category. (Rural=18.9%, Town=60.5%, City=20.7%).
Block 2. School climate	
School average teacher-student relations	z-standardised (Mean=0, sd=1)
School average levels of teacher co-operation (exchange / co-ordination)	z-standardised (Mean=0, sd=1)
Student Delinquency[a]	z-standardised (Mean=0, sd=1)

Table 7.3. continued

Teacher- or Classroom-Level Variables	
Block 3. Classroom structural and socio-economic characteristics	
Large class	Class size above 21.8 (average class size across teachers in Ireland), 1=Yes, 0=No.
Student ability Low ability Average High ability	Dummy indicator set for ability of students in class compared to students in the same year more generally, reference category is average ability. (Low=24.2%, Average=44.4%, High=31.4%).
Foreign language	Proportion of students in the class speaking first language different to language of instruction (mean=0.14, sd=0.22)
Parents with degrees[a]	Proportion of students in the class who have at least one parent who completed Third Level education to undergraduate degree level (mean=0.33, sd=0.24)
Block 4. Teacher demographic characteristics	
Special Duties[b]	Teacher is deputy principal, assistant principal, special duties teacher, or teacher with special functions allowance. 1=Yes (52.2%), 0=No (47.8%)
Gender	1=Female (68.0%), 0=Male (32.0%)
Full-time or part-time	1=Full-time (84.0%), 0=Part-time[c] (16.0%)
Contractual Status	1=Permanent (73.4%), 0=Temporary (26.6%)
Teacher education	1=Masters or above (17.2%), 0=Degree or below (82.8%)
Years of experience	Years of teaching experience (mean=16.30, sd=10.78)
Block 5. Teacher beliefs and practices	
Teacher-student relations	z-standardised (Mean=0, sd=1)
Teacher's use of structuring activities	z-standardised (Mean=0, sd=1)
Teacher's use of student-oriented activities	z-standardised (Mean=0, sd=1)
Teacher's use of enhanced activities	z-standardised (Mean=0, sd=1)
Teacher's direct transmission beliefs	z-standardised (Mean=0, sd=1)
Teacher's constructivist beliefs	z-standardised (Mean=0, sd=1)
Teacher's exchange and co-ordination for teaching (co-operation)	z-standardised (Mean=0, sd=1)
Meet parents regularly[b]	1=Three or more times per year (50.5%), 0=Less frequently (49.5%)
Engage in counselling or pastoral care regularly[b]	1=Three or more times per year (64.2%), 0=Less frequently (35.8%)

Note. Estimates in this table are computed using only those cases included in the multi-level model (N=1917 at Level 1, N=142 at Level 2) and may differ somewhat from estimates provided in previous chapters based on the full dataset. Estimates are weighted using the weights applied in the multi-level model.

[a]Variable has a missing indicator to reduce list-wise deletion.

[b]Variable was derived from national sources or national addition to questionnaire.

[c]No distinction was made between teachers who wished to work part-time and those who could not find full-time employment.

The national variables which were added were: participation in the School Support Programme under DEIS; school type (community/comprehensive, vocational or secondary); school size; school gender composition; whether or not the teacher holds a special duties post; whether or not the teacher meets parents regularly; and whether or not the teacher engages in counselling or pastoral care regularly. In choosing variables for the current analysis, consideration was given to those which had been found to be significant in the OECD regression of classroom climate for Ireland described above; e.g., as no variables from the professional development block or the teacher appraisal block were significant in the OECD gross or net models, neither of these blocks was included in the current model. Consideration was also given to levels of missing data, and where possible, variables with lower levels of missing data were chosen. Where effect sizes are discussed in terms of standard deviation units in the text which follows, these relate to the Irish standard deviation on the classroom climate scale (1.08).

Before finalising the variables which would be tested in the model, a correlation matrix for each block was examined. In cases where bi-variate correlations exceeded 0.80, only one of the two variables was included in the block (Hutcheson & Sofroniou, 1999); e.g., as a correlation of 0.93 was found between the teacher exchange and co-ordination and the teacher professional collaboration scales, only teacher exchange and co-ordination was included in the model. Continuous variables were standardised to have a mean of 0 and standard deviation of 1 and grand centred around their means. This facilitates interpretation as the intercept then corresponds to the predicted classroom climate in a classroom where the teacher has mean values on each continuous variable. An exception to this was teacher years of experience: this variable was not centered so that the parameter estimate corresponds to the change in classroom climate associated with each extra year of teaching experience.

HLM 6.0 employs listwise deletion, i.e., cases are dropped from the dataset which are missing values on any of the explanatory variables. Therefore, only cases with available data on all explanatory variables could be included in the analysis. In order to conserve as many cases as possible, where a variable was missing values on 5% or more of cases, and where the variable was deemed important for the analysis, a missing indicator was included for that variable. In this instance, a case with a missing value on a continuous variable was assigned either the school mean (for teacher-level variables) or the sample mean (school-level variables); a case with a missing value on a binary variable was assigned zero. A missing indicator was given the value of 1 if the variable was missing a value and 0 otherwise. Missing indicators were included for percentage of parents with a third level degree and for delinquency (school-level). Of the 2227 teachers who participated in TALIS in Ireland, 1917 (86%) complete cases were available for analysis, after inclusion of missing indicators.

The issue of weights in multi-level models is complex and technical discussion continues regarding the preferred approach (see e.g., OECD, 2009c; Rabe-Hesketh & Skrondal, 2006). For the current analysis, models were weighted using the school final weight at school level and an adjusted teacher weight at teacher level. The adjusted teacher weight which represents the teacher-within-school weight was computed as follows:

Teacher design weight * Teacher non-response adjustment * Teacher incidental exclusion adjustment * Teacher multiplicity adjustment.

The school weight is the product of the school design weight and the school non-response adjustment. HLM 6.0 uses the following approach, based on Pfefferman et al. (1998), for normalising weights (see electronic manual in Raudenbush, Bryk & Congdon, 2004): If weights are available at both level-1 and level-2, the methodology assumes that the level-1 weight is $P_{i|j}$, the conditional probability of selection of unit i given that unit j was selected, so that $P_{i|j} = P_{ij} \mid P_j$. The level-2 weight is assumed to be inversely proportional to P_j. In this case, HLM will normalize the level-1 weight within level-2 units:

$$w_{i|j} = \frac{n_j / P_{i|j}}{\sum_{i=1}^{n} 1/P_{i|j}}$$

so that the sum of these weights within a level-2 unit will be

$$\sum_{i=1}^{n} w_{i|j} = n_j$$

where n_j is the sample size of level-1 units in level-2 unit j.

The next step in the modelling process was to test each variable separately against the null model of classroom climate. If the variable was significant (using $p<0.1$), the variable was retained in the block. Once each block was finalised, blocks were entered in the model together. Variables which were not significant (i.e., if $p>.05$) were dropped one by one, starting with the variable with smallest chi-square or t-value.

Following selection of the variable blocks, curvilinear terms for continuous variables (class-size and low average ability at school-level, and teacher-student relations and use of structuring practices at teacher-level) were examined through the addition of squared terms. A test of deviance difference showed that the curvilinear terms did not significantly improve model fit.

Within-level interactions at Level 1 between ability and the other level 1 variables were examined through the addition of interaction terms to the model. As ability was entered in to the model as two dummy variables, both dummies were used in the computation of interaction terms. In all cases, interaction terms were found not to be significant. Within-level interactions at Level 2 between each of the level 2 variables were examined and found not to be significant. Cross-level interactions between Level 1 and Level 2 variables were also examined and found not to be significant.

Random slopes were added one at a time for each Level 1 variable. This allows an examination of whether or not teacher- or classroom-level effects vary across schools. When entered one by one, slopes for permanent employment and student ability were found to vary across schools. However, once these were entered simultaneously, only the random slope for student ability significantly improved model fit and this is due to the

contribution of the low ability variable rather than the high. The reasons why slope variations in class ability ratings account for slope variation in permanent employment status cannot be inferred from the model in the absence of an independent achievement measure.

In order to estimate the impact of the random slope, i.e., the extent to which the effects of low ability vary across schools, the parameter estimate associated with low ability is added to ±1.96 times the standard deviation associated with the random slope. Adding the parameter estimate for low-ability (-0.50, see Table 7.4) to ±1.96 times the standard deviation associated with the random slope (0.43) gives the range of values that the random slope is expected to have for 95% of schools. Thus, in 95% of schools, low ability in the classroom can be expected to result in a change in classroom climate score of between -1.34 and 0.35 points.

Final Multi-level Model of Classroom Climate

Table 7.4 presents the final model of classroom disciplinary climate in Ireland (without random slopes[2]). Parameter estimates and significance tests for variables added separately to the null model are provided in Tables F7.3, F7.4, Appendix F. Results of the final model are broadly supportive of the findings of the OECD regression discussed above; however, the inclusion of national variables, such as participation in the School Support Programme under DEIS, improves the relevance of the model for an Irish audience. Results show that, as in the OECD regression, increasing average class size at the school level is found to impact negatively on classroom climate. In addition, a negative association is found between classroom climate and the proportion of students in the school below average ability (compared to students more generally). A school's participation in the School Support Programme under DEIS is also found to be negatively associated with classroom climate. A school which participates in the School Support Programme under DEIS, scores on average 0.25 units (or just under one-quarter of a standard deviation[3]) lower on the classroom climate scale than a school not participating in the SSP.

Example values can be used to illustrate the effects on classroom climate of variation in average class-size or the proportion of students who are below average ability. A decrease in classroom climate of 0.02 units is associated with an increase in school-average class-size of one student. Therefore, in a school where average class-size is 10 students above average, classroom climate is 0.2 units (or a little under one-fifth of a standard deviation) lower. Having higher proportions of low-ability students in the school is also shown to negatively impact on classroom climate; in schools where the proportion of students of below average ability is at the bottom quartile (i.e., comparatively few students of below average ability), classroom climate is 0.21 points[4] higher than in schools where the

[2] Including random slopes results in minor changes to the parameter estimates and associated standard errors.
[3] National standard deviation (1.08)
[4] Proportion of below average ability students in schools at the 25th percentile on this measure = 0.10, proportion of below average ability students in schools at the 75th percentile on this measure = 0.32. Difference between 25th and 75th percentiles = 0.22. To compute the effect of increasing the proportion of students from the 25th percentile value to the 75th percentile, the difference between the two is multiplied by the parameter estimate from the model, i.e. 0.22 * -0.95 = -0.209.

proportion of students of below average ability is at the top quartile (i.e., comparatively more students of below average ability). Again, this is about one-fifth of a standard deviation.

Table 7.4 Multi-level Model of Classroom Climate – Ireland

	Parameter	SE	Test Statistic	df	p-value
Intercept	-0.00	0.075			
School-level					
School average class size	-0.02	0.008	t=-2.500	138	0.014
Proportion of students below average ability	-0.95	0.189	t=-4.990	138	<0.001
School Support Programme under DEIS: Yes – No	-0.25	0.064	t=-3.865	138	<0.001
Teacher-level					
Ability of students in class					
Below average – average	-0.50	0.076	Ddiff=150.35	2	<0.001
Above average – average	0.30	0.055			
Full-time	0.17	0.072	t=2.326	1907	0.02
Permanent	0.24	0.063	t=3.759	1907	<0.001
Teacher-student relations	0.07	0.024	t=3.064	1907	0.003
Use of structuring practices	0.21	0.022	t=9.789	1907	<0.001

Turning to classroom- or teacher-level variables, again, student ability is found to be significantly associated with classroom climate. Therefore, student ability is found to be significant both at the school- and classroom-levels. In a classroom where the teacher describes the ability of students as below average compared to other students in the same year more generally, the classroom climate is a little under half of a standard deviation lower than in a classroom where students are of average ability. Conversely, in classrooms where teachers describe students as being of higher than average ability, classroom climate is just over one-quarter of a standard deviation higher than in classrooms where students are described as being of average ability.

Teachers who work full-time and on permanent contracts are more likely to report better classroom disciplinary climates in their classrooms. A teacher working full-time is associated with approximately one-sixth of a standard deviation increase in classroom climate (when other variables are held constant), while a teacher having a permanent contract is associated with a little under one-quarter of a standard deviation increase. In the regression in Chapter 4, looking only at the association between a number of teacher background characteristics and classroom climate (see Table 4.12), teaching experience was found to be significantly associated with classroom climate. It is notable that, although teachers' years of experience was tested in the development of this model, it was not

significant in the final model once contractual status was included (contractual status was not included in the regression in Chapter 4). Although TALIS findings indicate that in Ireland, the majority of teachers aged under 30 have fixed term contracts rather than permanent employment (see Chapter 2), there are some teachers of all ages without permanent employment. Thus, the group of teachers on fixed term contracts includes not only those younger teachers in their early years of teaching, but also more experienced teachers who are not permanent for a variety of reasons. While the findings of the Chapter 4 regression indicate that teaching experience is significantly associated with classroom climate, the current model shows that this relationship is mediated by employment status.

A teacher who considers teacher-student relations in the school to be positive is also more likely to report a positive classroom climate; a small increase in classroom climate is associated with a one-standard deviation increase in the teacher-student relations scale. Teachers' use of structuring practices is shown to be associated with creating a positive classroom disciplinary climate; a standard deviation increase in the frequency of using structuring practices is associated with one-fifth of a standard deviation increase in classroom climate.

The effects of low ability on classroom climate were found to vary across schools (see detail above of random slope computation). The decrease in classroom climate associated with a teacher reporting that students are below average ability compared to students more generally can be as much as 1.34 units (or approximately one and one-quarter standard deviations). Reasons as to why low ability might impact on classroom climate to a greater extent in some schools than others cannot be inferred from the model. Further investigation of this issue could examine whether the effects of low ability on classroom climate vary according to whether low ability is related to special needs, insufficient experience of the language of instruction, social disadvantage, or some combination of these.

As noted above, about 12% of the total variance in classroom climate in Ireland is between schools; the remainder (88%) is between teachers within schools. Of the total variance in classroom climate (between- and within-schools), this model explains 22.2% (done on the basis of the model with fixed slopes presented in Table 7.4, compared with the null model). It is primarily useful in explaining between-school variance (rather than within-school variance), as, of the variance explained, the majority (71%) is between schools. The model is less effective at explaining variance in classroom climate within schools. Of the total variance explained, 16% is variance within schools.

Conclusion

This chapter outlined multiple regressions of teacher self-efficacy and classroom climate for Ireland and comparison countries, as well as a multi-level model of classroom climate in Ireland. Results of the OECD's multiple regressions show that positive teacher-student relations and teachers' use of structuring practices are positively associated with both teacher self-efficacy and classroom climate in Ireland, and in some of the comparison countries.

Looking at teacher self-efficacy in particular, positive associations are found between stronger teacher beliefs and self-efficacy in Ireland and each of the comparison countries. Higher teacher self-efficacy is associated with holding stronger constructivist beliefs about teaching, stronger direct transmission beliefs, or both. In Ireland, and in some comparison countries, higher self-efficacy is associated with teachers' use of enhanced teaching activities and teachers' reports that appraisal leads to increased recognition from the principal. In Ireland, teachers report higher self-efficacy in schools where the principal scores highly on the accountable leadership scale. Teachers in community, comprehensive and vocational schools in Ireland have somewhat lower levels of self-efficacy than teachers in secondary schools. This was noted in Chapter 4 (Table 4.18) and confirmed in the multiple regression in this chapter. Factors underpinning the differences in self-efficacy between teachers in the different school sectors may warrant further examination.

Turning to the multiple regression of classroom climate, in addition to teacher-student relations and teachers' use of structuring practices, a number of other variables are positively associated with classroom climate in Ireland. These are: high average student ability in the classroom, higher levels of education among students' parents, the teacher in full-time employment and the teacher with a permanent contract. Variables which are negatively associated with classroom climate are: low average student ability at both classroom (teacher) and school-level, student delinquency at school-level and school average class size.

Findings from the national multi-level model of classroom climate concur with, and add to, those from the multiple regression. The national model included a number of additional variables over and above the international regression. The only additional variable to emerge as significant in the final national model is a school's participation in the School Support Programme under DEIS. Looking firstly at school-level variables, results of the national model show that, as with the international regression, increasing school-average class size has a negative impact on classroom climate in Ireland. In addition, results of the national model indicate that schools participating in the School Support Programme under DEIS score lower on the index of classroom climate and schools with larger proportions of low ability students also have poorer classroom climates. Together, these point towards an important association between class size, educational disadvantage and classroom disciplinary climate.

Turning to the classroom or teacher level, the national model shows that within the classroom, student ability is important, with higher proportions of low ability students associated with poorer classroom climate and higher proportions of high ability students associated with better classroom climate. Teachers who are employed full-time or on a permanent basis report having a better climate in their classrooms. Similarly, teachers who use structuring practices with greater frequency, and teachers who perceive teacher-student relations to be good, indicate that the climates in their classrooms are more positive. The model shows that once teachers' contractual status is considered, teaching experience is no longer significantly associated with classroom climate in Ireland.

8. Conclusions and Implications

TALIS, the Teaching and Learning International Survey, is a project of the OECD. It was conducted in 2007-2008 in 24 countries to examine the working conditions of teachers and the learning environments in schools. In Ireland, 2227 teachers and 120 principals from 142 schools returned completed questionnaires.

Prior to discussing the implications of the TALIS findings, it is important to reiterate the caveats outlined earlier in this report. Firstly, TALIS data are based on self-reports of teachers and principals, with the result that they are less objective than might be the case if alternative sources of data had been tapped. Secondly, cultural differences across countries may have influenced response patterns and hence, some of the indices are not comparable across countries, though within-country comparisons and comparisons with the TALIS country average can be made. Thirdly, TALIS does not permit the identification of causal relationships between variables. Throughout the report, data for Ireland are compared with those for Austria, Belgium (Fl.), Denmark, Norway and Poland. These countries are designated as comparison countries.

This chapter contains 16 recommendations under 5 topic areas: professional development; teachers' beliefs, practices and attitudes; school evaluation, monitoring of teachers' professional practices and provision of feedback to them; school leadership and management styles; and teacher self-efficacy and classroom disciplinary climate.

Professional Development

The level of participation in professional development in Ireland was similar to the levels found on average across TALIS countries (90% of teachers in Ireland reported having undertaken some professional development in the 18 months prior to the TALIS study, compared to the TALIS country average of 89%). However, it is noteworthy that approximately one-in-ten teachers in Ireland did not participate in any professional development during that time, perhaps reflecting the fact that, in Ireland, attendance at professional development is not a requirement for teachers. With an average of just under 6 days of professional development per teacher, Ireland had the lowest average number of professional development days across all TALIS countries. Four of the five comparison countries had averages of between 8 and 11 days and Poland had an average of 26 days[1].

In Ireland, Section 23(c) of the 1998 Education Act requires school principals to work collaboratively with the board of management, the parents and the teachers to establish a school environment which promotes the professional development of teachers. It appears that the professional development in which the majority of teachers currently engage in this country comprises attendance at courses relating to changes in subject syllabi and the implementation of national programmes, with relatively little emphasis on teachers addressing their own professional development needs, in the context of a broader school

[1]Among teachers who participated in professional development activities, 95% in Ireland reported receiving at least some scheduled time compared with just 57% in Poland (Table 3.7).

plan for professional development. Criticism of professional development being provided only in response to curriculum reform is not new; Archer (1994, p.10) argued that 'by establishing linkages of this kind one is depriving teachers of the opportunity to determine their own in-service needs and of having a say on how these needs are met'. The establishment and expansion in the mid-1990s[2] of the network of Education Centres was intended to support schools and teachers in accessing professional development activities related to local and personal needs as well as development relating to system needs. It is noteworthy, therefore, that participation in activities related to system needs remains the primary form of professional development in Ireland. However, this may change in time, in line with the Teaching Council's (2007) Codes of Professional Conduct, with teachers as well as schools taking greater responsibility for engagement in professional development:

> Teachers believe that professional development is a lifelong process, which is influenced by personal, social and educational contexts. It is most effective when it is embedded in practice. Continuous professional development is both a right and a responsibility and should be supported by policy and resources at local, regional and national level. (p.18)

Findings from TALIS show that comparatively lower percentages of teachers in Ireland participated in observation visits to other schools (8%) than in the five comparison countries or on average across TALIS countries (28%). Similarly, relatively few teachers in Ireland participated in mentoring and peer observation (18%), individual or collaborative research (26%) or qualification programmes (11%) in the 18 months prior to TALIS. While participation in courses and workshops (86% of teachers in Ireland) and professional development networks (51%) was widespread in Ireland (albeit in the context of the low average number of professional development days taken), there is clearly scope for teachers to engage in a broader range of activities, both inside and outside of school time. For example, as currently only 16% of teachers in Ireland have a Masters degree and under 1% have a doctoral degree, greater numbers of teachers should be encouraged to undertake post-graduate study or other relevant study at an appropriate level on the National Framework of Qualifications (www.nfq.ie/nfq/en/). There is, however, some evidence that greater numbers of new entrants to post-primary teaching are beginning to present with post-graduate qualifications (Clarke, Shevlin & Lodge, 2005).

The establishment of a school professional development plan would seem to be one way to ensure that teachers' needs in this area are aligned with school objectives as well as national priorities. Such a development would be congruent with a move towards school self-evaluation in the context of ongoing school development and planning. As a stronger professional development culture emerges in schools, the possibility, in the longer term, of developing individual professional development plans for teachers could be considered.

Over 40% of teachers in Ireland who participated in TALIS cited conflict with work schedule as a barrier to participating in more professional development. Professional development should be integrated into the work of teachers to a greater extent than is currently the case so that it does not always involve absences from school, but is part of an

[2] http://www.ateci.ie/history.asp

overall culture of professional development. In order to strengthen such a culture, it is acknowledged that issues concerning access, incentives and scheduling would need to be addressed. Perhaps this will happen in the context of initiatives taken by the Teaching Council to align professional development with teachers' career structures, for teachers in general, and for teachers who have been away from the profession for some time, and wish to return.

Between one-quarter and two-fifths of teachers in Ireland reported that their areas of greatest professional development need were teaching students with special learning needs, ICT teaching skills, student counselling and teaching in a multi-cultural setting. Of course, teachers may have other needs which they did not identify or which were not included in the TALIS teacher questionnaire. Approximately 45% of teachers in Ireland indicated that a reason for not undertaking more professional development was that no suitable opportunities were available.

Although 84% of teachers worked in schools where the principal reported that an induction programme was in place for all teachers new to the school, the quality and intensity of this induction may vary across schools (TALIS did not look at this). For the majority of teachers, induction was organised by the school without external support. The National Pilot Project on Teacher Induction (Killeavy & Murphy, 2006) may provide a model for extending more comprehensive teacher induction to all schools.

Recommendation (R1): The Department of Education and Science (DES), other educational partners and stakeholders, schools and teachers should collaborate to identify ways in which professional development can be facilitated, on a more frequent basis, both within and outside of school time. In doing so, attention will need to be given to issues such as (i) access; (ii) incentives; and (iii) scheduling, as well as any future requirements for maintaining or reinstating Teaching Council registration.

Recommendation (R2): Each school should prepare a professional development plan covering a three to five year period, taking into account the needs of the system and the school as well as teachers' individual needs. This will enable professional development to become part of the culture of the school. As this culture and the national context evolve, it would be expected that all teachers will prepare individual professional development plans.

Recommendation (R3): The Teaching Council should identify ways in which teacher professional development, including induction, can be incorporated into the career structures of teachers. Reference should be made to the National Framework for Qualifications in recognising the role of additional qualifications in teachers' career structures.

Recommendation (R4): In supporting teachers to access professional development, the DES, the support services and schools should take into account not only more general needs in the areas of teaching and learning, but also the TALIS finding that teachers in Ireland report their areas of greatest need as teaching special learning needs students, ICT teaching skills, student counselling and teaching in a multi-cultural setting.

Recommendation (R5): Schools should be assisted by the DES and support services in enabling teachers to engage in a broader range of professional development activities,

including observation visits to other schools, mentoring and peer observation, and individual and collaborative research.

Recommendation (R6): Schools should be supported by the Teaching Council and other relevant bodies in providing high quality induction to all newly qualified teachers, drawing on a model such as the National Pilot Project on Teacher Induction. Schools should provide appropriate induction to teachers who have transferred from another school.

Teachers' Beliefs, Practices and Attitudes

Although teachers in Ireland endorse constructivist beliefs to a greater extent than direct transmission beliefs, the strength of preference in Ireland is not as great as in many TALIS countries. There is therefore scope to increase Irish teachers' awareness of constructivist approaches (i.e., those based on inquiry/problem-solving/active learning). Professional development activities may offer one means of doing this. It is important that any activities designed to make teachers more aware of constructivist approaches are themselves participative in nature and that they make use of critical reflection and collaboration (Archer, 1994; see also, Callan, n.d.). Findings from TALIS show that in Ireland, teachers who took more days of professional development and participated in workshops and courses were less likely to endorse direct transmission beliefs (although, unlike their counterparts in other TALIS countries, they were not more likely to endorse constructivist beliefs). One reason for encouraging teachers to adopt constructivist beliefs is that such beliefs were shown to be associated with more varied instructional practices, i.e., more frequent use of student-oriented teaching practices and/or enhanced activities.

Teachers in Ireland showed a strong preference for structuring practices (the strongest across all TALIS countries). Structuring practices are those which aim to ensure that learning is well structured, e.g., reviewing homework or presenting a summary of previous lessons. Although such practices were shown to be important for maintaining an orderly climate in the classroom, teachers should be encouraged to adopt more varied instructional practices so that students experience greater autonomy and opportunities for different types of learning. In Ireland, the number of days of professional development and participation in mentoring activities were found be positively associated with the use of student-oriented teaching practices (i.e., teaching which is adapted to individual student needs such as group work based on student ability), while participation in mentoring activities was also significantly associated with the use of enhanced activities (i.e., opportunities for students to explain their thinking or reasoning in detail through debates or extended essays).

In Ireland, female teachers were found to be more likely to engage in co-operative professional activities than male teachers so it may be useful to encourage greater participation of males in co-operative activities generally. Across all TALIS countries, teachers were more likely to engage in more basic types of co-operative activities, such as exchanging teaching materials, than in complex professional collaboration, such as observing other teachers' classes. There is scope to extend the amount of complex professional collaboration taking place in schools in Ireland, perhaps in the context of enhanced planning among same subject teachers (as recommended in several WSE

reports[3]). Professional collaboration was shown to be associated with the number of days of professional development undertaken so again, this is an area that could be targeted by professional development. The finding that positive teacher-student relations were associated with the degree to which exchange and co-ordination takes place in the school may indicate that greater co-operation in the school is indicative of a more positive school climate and should therefore be encouraged. However, it is recognised that this may have some resource implications.

Recommendation (R7): Given the influence of teacher beliefs on teaching and learning, schools and providers of professional development should look at ways to raise teachers' awareness of the value of constructivist approaches to teaching (i.e. those based on inquiry/problem-solving/active learning).

Recommendation (R8): Schools and providers of professional development should support teachers in using a broader range of teaching practices, including involving students in: planning learning activities; jointly solving problems in small groups; completing extended projects; and explaining their reasoning. The potential contribution of mentoring in this work should be noted.

Recommendation (R9): Schools should encourage greater co-operation between teachers, engaging them over time in activities such as team teaching and observing other teachers' classes.

School Evaluation, Monitoring of Teachers' Professional Practices and Provision of Feedback

In Ireland, 44% of teachers taught in schools in which a school self-evaluation had taken place in the five years prior to TALIS, compared with 80% on average across TALIS countries. One reason for this difference is that principal teachers in Ireland providing this information may not have factored into their responses activities that may be consistent with self-evaluation as defined by TALIS (e.g., preparing a plan related to the School Support Programme under DEIS). In any event, this is an area that merits further investigation, with a view to increasing the frequency of school self-evaluations and linking them in a more coherent way to Whole School Evaluation (WSE). Hence, rather than school self-evaluation simply mirroring WSE, as recommended in *Looking at Our School: An Aid to Self-evaluation in Schools* (DES, 2003), WSE should acknowledge the broad range of self-evaluation activities in which schools could engage, such as reviewing teaching and learning in individual subjects, providing for students with special educational needs, or developing a plan for improvement.

While there has been an increase in the number of external whole-school evaluations in recent years, fewer teachers in Ireland (43%) than on average across TALIS countries (70%) worked in schools in which such an evaluation had taken place. However, external subject inspections that were conducted independently of WSE and programme inspections were not factored into the estimate for Ireland. Yet, in 2008, 60 whole-school evaluations

[3] WSE reports may be accessed at http://www.education.ie/home/home.jsp?pcategory=32818&ecategory=36092&language=EN (last verified 28th October 2009)

took place Ireland. If the number of such evaluations were to continue at this level, it would take 11-12 years to cover all schools. This would still place Ireland well behind other countries with respect to frequency of external school evaluations. Given the finding in TALIS that 50% of principals in Ireland were in that role in their current schools for five years or less, and the fact that a cohort of students moves through a school in 5-6 years, it would seem important for schools to participate in an external school evaluation at least once every five years.

Principal teachers in Ireland indicated that high levels of importance were attached to a broad range of criteria in conducting school evaluations (both self- and external). There may be value in narrowing the criteria in some of these evaluations so that they have a stronger focus on a more limited number of specific school or national policy-relevant issues.

While the percentage of teachers in Ireland who had received an appraisal[4] of their teaching in their current school by an external person (47%) was about the same as the TALIS country average, fewer teachers in Ireland had experienced an appraisal by the school principal (57%) or by another teacher/member of the school management team (48%) relative to the comparison countries and corresponding TALIS country averages. This may be a matter of concern, given the positive associations noted in Chapter 5 between appraisal and feedback in areas such as teaching students with special learning needs or teaching in a multicultural setting and teaching practices, teacher job satisfaction and the identification of teacher professional development needs. This suggests that principal teachers should engage to a greater extent in monitoring teachers' professional practices, with other senior teachers doing so as appropriate (e.g., in the context of mentoring).

The effects of teacher appraisal and feedback, as reported by teachers in Ireland, were modest, and were lower than on average across TALIS countries. Just 21% of teachers in Ireland, compared with a TALIS average of 41%, indicated that appraisal and feedback had led to an increased emphasis on improving test scores, while 25% reported that it had led to change in classroom management practices, compared to 38% on average across TALIS countries. Related to this, just 40% of teachers in Ireland reported that they received specific suggestions for improving their work, compared to 58% across TALIS countries. While it is possible that many teachers whose work had been appraised did not need to improve in the aspects of teaching specified in the TALIS teacher questionnaire, or received an appraisal in the context of a subject or Whole School Evaluation where individual teacher feedback was not a focus, it remains a concern that many teachers who have been through an appraisal do not perceive it to have had strong effects on their work.

Recommendation (R10): Schools should engage in an on-going process of self-evaluation relating to teaching and learning, which results in action plans for further development in key areas. This work should be acknowledged in external school evaluations.

[4] As noted in Chapter 5, the term 'appraisal' is not typically used in Ireland in relation to the ongoing monitoring of teachers' professional practices. However, the term is used in the current report for purposes of comparison with other TALIS countries.

Recommendation (R11): The Department of Education and Science should work towards implementing an external evaluation in each post-primary school every five years.

Recommendation (R12): School principals should be supported by the DES and others to create environments which prioritise student learning and teacher professional development. Such support might focus on establishing improved systems to assess the quality and effectiveness of teaching and learning and convey relevant feedback to teachers.

School Leadership and Management Styles

Principal teachers in Ireland and in four of the five comparison countries did not engage as frequently in activities associated with an instructional leadership style as their counterparts in other TALIS countries. In Ireland, principal teachers had relatively little engagement in 'direct supervision of instruction' (e.g., observing instruction in classrooms, giving teachers suggestions for improving their teaching, monitoring students' work). Moreover, it seems that principal teachers in Ireland engage in some administrative activities to an even greater extent than their counterparts in most of the comparison countries, and hence have relatively little time available for instructional leadership activities – an issue that has already been documented elsewhere (Leadership Development for Schools, 2007). However, Section 9(k) of the 1998 Education Act requires schools to 'establish and maintain systems whereby the efficiency and effectiveness of its operations can be assessed, including the quality and effectiveness of teaching in the school and the attainment levels and academic standards of students'.

In Ireland, there are relatively few significant associations between the leadership style scale and the teaching and learning variables included in TALIS. However, attention is drawn to the associations across TALIS countries between adopting a stronger leadership style, the use of professional development undertaken as a criterion in the appraisal of teachers, and the preparation of a professional development plan as a response to weaknesses observed during appraisal.

The current report, in various ways, provides support for the idea that principal teachers should adopt a stronger instructional leadership role in schools that would include more emphasis on directing the professional practices of teachers, an issue also addressed in Pont, Nusche and Moorman (2008).

Recommendation (R13): The DES should identify strategies designed to reduce the engagement of principal teachers in administrative tasks and appropriate in-career development should be provided to principals in this regard.

Recommendation (R14): School principals should strive to achieve a better balance between, on the one hand, administrative duties, and, on the other, activities consistent with more effective supervision of standards in teaching and learning, including those relating to teachers' professional practices.

Teacher Self-efficacy and Classroom Disciplinary Climate

Teachers in Ireland were found to have comparatively high levels of self-efficacy, with a mean score above the TALIS average. Over 95% of teachers in Ireland agreed with each of three statements relating to making a difference in the lives of students, being successful with students, and getting through to them. Almost 86% of teachers in Ireland agreed that they can make progress with even the most difficult of students. Further research may need to be undertaken into factors related to variation in the self-efficacy of teachers in different school types (see Chapter 4). TALIS indicates that there are high levels of job satisfaction among teachers in Ireland.

The comparatively high mean score for Ireland on the index of classroom disciplinary climate (based on items that asked teachers about the amount of time lost due to student interruptions, noise in the classroom, the length of time taken for students to settle down at the beginning of lessons, and the extent to which students create a pleasant environment) shows that the disciplinary climate in Irish classrooms is generally positive. In addition, teacher-student relations in Ireland were found to be strong relative to other TALIS countries. It is important that these positive aspects of Irish post-primary education are not overlooked as other developments in the system take place.

In Ireland, a more positive classroom disciplinary climate was found to be associated with teachers being in permanent employment and working full-time (Chapter 7). Given the finding in Chapter 2 that 27% of teachers in Ireland reported that they were on fixed term contracts (the highest percentage across all TALIS countries), it would seem important to re-visit issues around teacher employment status. This should take into account the association in TALIS between permanent full-time employment and classroom disciplinary climate.

Recommendation (R15): Findings in Ireland of strong levels of teacher self-efficacy and classroom disciplinary climate, as well as positive teacher-student relations and high job satisfaction, should be acknowledged and secured as new initiatives designed to improve the education system are put in place.

Recommendation (R16): The DES should note the relationships found in TALIS between permanent employment, full-time work and classroom disciplinary climate and take these into account in developing policies relating to the status of teaching positions.

References

Archer, P. (1994). *An external evaluation of schools for active learning*. Ashbourne, Co. Meath: Author.

Byrne, K. (2002). *Report of the Advisory Group on Post-primary Education*. Dublin: Department of Education and Science.

Callan, J. (n.d.). *Schools for active learning*. Maynooth: St Patrick's College.

Clarke, M., Lodge, A., & Shevlin, S. (2005). *The future of consecutive post-primary teacher education.* Invitational Seminar for Teacher Educators and Department of Science Teacher Education Division, Trinity College Dublin (December 2005).

Commission of the European Communities. (2007). *Improving the quality of teacher education*. COM(2007) 392 final. (Retrieved from http://ec.europa.eu/education/com392_en.pdf).

Commission of the European Communities. (2008). Green paper: *Migration and mobility: challenges and opportunities for EU education systems* {SEC(2008) 2173}. (Retrieved from http://ec.europa.eu/education/school21/com423_en.pdf).

Coolahan, J. (2003). *Attracting, developing and retaining effective teachers: Country background report for Ireland*. Paris: OECD and Dublin: Department of Education and Science. (Retrieved from http://www.oecd.org/dataoecd/62/22/19196740.pdf)

Coolahan, J. (2007). *A review paper on thinking and policies relating to teacher education in Ireland. Paper presented to the Teaching Council.* (Retrieved from http://www.teachingcouncil.ie/_fileupload/TC_EdCtee/Continuum_ppr_PositionPaperJohnCoolahan_18feb2009_ck_61560932.pdf)

Cosgrove, J., Shiel, G., Oldham, E., & Sofroniou, N. (2004). A survey of mathematics teachers in Ireland. *Irish Journal of Education, 35*, 20-44.

Cosgrove, J., Shiel, G., Sofroniou, N., Zastrutzki, S., & Shortt, F. (2005). *Education for life: The achievements of 15-year-olds in Ireland in the second cycle of PISA.* Dublin: Educational Research Centre.

DES (Department of Education and Science). (1992). *Green paper: Education for a changing world.* Dublin: Stationery Office.

DES. (2005). *DEIS (Delivering Equality of Opportunity in Schools). An action plan for educational inclusion.* Dublin: Author.

DES. (2008). *ICT in schools*. Dublin: The Stationery Office.

DES. Inspectorate. (2003). *Looking at our school: An aid to self-evaluation in second-level schools*. Dublin: Stationery Office. (Retrieved from http://www.education.ie/servlet/blobservlet/insp_looking_at_self_evaluation_second_level_schools.pdf?language=EN) [Third reprint, 2008].

DES. School Development Planning Initiative. (1999). *School development planning: An introduction for second-level schools*. Dublin: Author. (Retrieved from http://www.sdpi.ie/blue_book/SDPI_Book.pdf)

DES. Teacher Education Section. (2007). *A value for money assessment of programmes managed by the teacher education section.* Dublin: Author.

Drudy, S. (2008). Gender balance/gender bias: the teaching profession and the impact of feminisation. *Gender and Education, 20*(4), 309-323.

Eivers, E., Shiel, G., & Cunningham, R. (2008). *Ready for tomorrow's world. The competencies of Ireland's 15-year-olds in PISA 2006.* Dublin: Educational Research Centre.

Eivers, E., Shiel, G., & Shortt, F. (2004). *Reading literacy in disadvantaged primary schools*. Dublin: Educational Research Centre.

Finucane, P. (2004). *Continuing professional development: The experiences and perceptions of a sample of Irish post-primary teachers*. Unpublished master's thesis, University of Limerick.

Flynn, S. (2009, October 9). Pupils and parents will rate teachers under pilot system. *Irish Times,* online edition, http://www.irishtimes.com/newspaper/ireland/2009/1009/1224256256677.html

Goldstein, H. (1999). *Multilevel statistical models*. London: Institute of Education. (Retrieved from http://www.soziologie.uni-halle.de/langer/multilevel/books/goldstein.pdf).

Guskey, T.R. (1986). Staff development and the process of teacher change. *Educational Researcher, 15*(5), 5-12.

Hallinger, P. (1985). *Principal instructional management rating scale.* Yorktown Heights, NY: Leading Development.

Hallinger, P., & Heck, R. (1998). Exploring the principal's contribution to school effectiveness: 1980 – 1995. *School Effectiveness and School Improvement, 9*(2), 157-191.

Haney, J., & McArthur, J. (2002). Four case studies of prospective science teachers' beliefs concerning constructivist teaching practices. *Science Education, 86*(6), 783-802.

Horn, J. L., & McArdle, J. J. (1992). A practical and theoretical guide to measurement invariance in aging research. *Experimental Aging Research, 18,* 117-144.

Hutcheson, G., & Sofroniou, N. (1999). *The multivariate social scientist*. London: Sage Publications.

Ireland. (1988). *Data Protection Act*. Dublin: The Stationery Office.

Ireland. (1995). *White paper: Charting our educational future.* Dublin: Stationery Office.

Ireland. (1998). *Education Act.* Dublin: The Stationery Office.

Ireland. (2000). *Education (Welfare) Act.* Dublin: The Stationery Office.

Ireland. (2003). *Data Protection (Amendment) Act.* Dublin: The Stationery Office.

Ireland. (2004). *Education for Persons with Special Educational Needs Act.* Dublin: The Stationery Office.

Ireland. (2005). *Safety, Health and Welfare at Work Act.* Dublin: The Stationery Office.

Ireland. (2006). *Towards 2016.* Dublin: The Stationery Office.

Jones, S., & Myhill, D. (2004). Seeing things differently: Teachers' constructions of underachievement. *Gender and Education 16*(4), 521-46.

King, K., Shumow, L., & Lietz, S. (2001). Science education in an urban elementary school: Case studies of teacher beliefs and classroom practices. *Science Education, 85*, 89-110.

Killeavy, M., & Murphy, R. (2006). *National pilot project on teacher induction. Report on phase 1 and 2, 2002 – 2004*. Dublin: The Stationery Office.

Kukla-Acevedo, S. (2009). Leavers, movers, and stayers: The role of workplace conditions in teacher mobility decisions. *Journal of Educational Research, 102*(6), 443-452.

Leadership Development for Schools. (2007). *Improving school leadership. OECD project. Background report for Ireland.* Paris: OECD. (Retrieved from http://www.oecd.org/dataoecd/35/44/38574871.pdf).

Levin, T., & Nevo, Y. (2009). Exploring teachers' views on learning and teaching in the context of a trans-disciplinary curriculum. *Journal of Curriculum Studies, 41*(4), 439-465.

Lynch, K. (1994). Women teach and men manage: why men dominate senior posts in Irish education. In *Women for leadership in education* (pp.1-36). Dublin: Conference of Religious of Ireland.

McManamly, S. (2002). *Providing for professional development of teachers in second-level schools: A survey of principals*. Dublin: Second Level Support Service.

National Council for Curriculum and Assessment (NCCA). (nd). *Project Maths: Developing post-primary mathematics education.* (Retrieved from http://www.ncca.ie/en/Curriculum_and_Assessment/Post-Primary_Education/Review_of_Mathematics/Project_Maths/Project_Maths_Developing_Post-Primary_Mathematics_Education.html).

National Education Convention (1994). *Report*. (Editor: John Coolahan). Dublin: National Education Convention Secretariat.

NCCA. (2005). *Intercultural education in the primary school. Enabling children to respect and celebrate diversity, to promote equality, and to challenge unfair discrimination.* Dublin: Author. (Retrieved from http://www.ncca.ie/uploadedfiles/Publications/Intercultural.pdf).

Ní Ríordáin, M., & Hannigan, A. (2009). Assessing the level of suitably qualified teachers teaching mathematics at post-primary education in Ireland. In Corcoran, D., Dooley, T., Close, S. & Ward, R. (Eds.), Third National Conference on Research in Mathematics Education (MEI3) (pp.274-283). Dublin: St Patrick's College.

Ogan-Bekiroglu, F. & Akkoç, H. (in press). Preservice teachers' instructional beliefs and examination of consistency between beliefs and practices. *International Journal of Science and Mathematics Education.*

OECD (Organisation for Economic Co-operation and Development). (1991). *Review of national policies for education, Ireland*. Paris: OECD.

OECD. (1999). *Classifying educational programmes: Manual for ISCED-97 implementation in OECD countries*. Paris: Author.

OECD. (2004). *Completing the foundation for lifelong learning. An OECD survey of upper secondary schools.* Paris: Author.

OECD. (2005). *Teachers matter: Attracting, developing and retaining effective teachers.* Paris: Author.

OECD. (2007). *PISA 2006: Science competencies for tomorrow's world, Volume 2: Data*. Paris: Author.

OECD. (2008). *Draft analysis plan for the OECD teaching and learning international survey (TALIS): Field trial. EDU/INES/TALIS(2008)2.* Unpublished document. Paris: Author.

OECD. (2009a). *Creating effective teaching and learning environments. First results from TALIS*. Paris: Author.

OECD. (2009b). *Education at a glance.* Paris: Author.

OECD. (2009c). *PISA data analysis manual. SPSS second edition.* Paris: Author.

OECD. (in press). *Teaching and learning international survey. Technical report.* Paris: Author.

Pfeffermann, D., Skinner, C. J., Holmes, D. J., Goldstein, H., & Rasbash, J. (1998). Weighting for unequal selection probabilities in multilevel models. *Journal of Royal Statistical Society B, 60,* 23-40.

Pont, B., Nusche, D., & Moorman, H. (2008). *Improving school leadership. Volume 1: Policy and practice.* Paris: OECD.

Quinn, R. E., Faerman, S. R., Thompson, M. P., & McGrath, M. R. (1996). *Becoming a master manager: A competency framework*. New York: Wiley.

Rabe-Hesketh, S., & Skrondal, A. (2006). Multilevel modelling of complex survey data. *Journal of Royal Statistical Society A, 169*(4), 805-827.

Raudenbush, S.W., Bryk, A.S., & Congdon, R.T. (2004). *HLM 6: Hierarchical linear and non-linear modelling.* Lincolnwood, IL: Scientific Software International, Inc.

RIA (Royal Irish Academy). (2006). Review of mathematics in post-primary education: Response from the Royal Irish Academy Committee for Mathematical Sciences, *Irish Mathematical Society Bulletin* 57, 11–20.

Scheerens, J., & Bosker, R. (1997). *The foundations of educational effectiveness*. Oxford: Elsevier Science.

SDPI (School Development Planning Initiative). (n.d.). *The school plan*. (Retrieved from http://www.sdpi.ie/Regional_Seminar_materials_2006_2007/RS06_School_Plan_framework_with_prompts.doc)

Skelton, C. (2007). Gender, policy and initial teacher education. *Gender and Education 19*(6), 677-690.

Smyth, E., Darmody, M., McGinnity, F., & Byrne, D. (2009). *Adapting to diversity: Irish schools and newcomer students*. Dublin: ERSI.

Shiel, G., Cosgrove, J., Sofroniou, N., & Kelly, A. (2001). *Ready for life: The literacy achievements of Irish 15-year olds*. Dublin: Educational Research Centre.

Stipek, D.J., Given, K.B., Salmon, J.M., & MacGyvers, V.L. (2001). Teachers' beliefs and practices related to mathematics instruction. *Teaching and Teacher Education, 17*(2), 213-226.

Stoll, L., Bolam, R., & Collarbone, P. (2002). Leading for change: Building capacity for learning. In K. Leithwood and P. Hallinger (Eds.), *Second international handbook of educational leadership and educational administration* (pp. 41-73). Dordrecht, Netherlands: Kluwer Academic Publishers.

Sugrue, C. (2003). Principals' professional development: Realities, perspectives and possibilities, *Oideas, 50,* 8-39.

Taskforce on Student Behaviour in Second Level Schools. (2006). *School matters - The report of the Task Force on student behaviour in second level schools*. Dublin: Department of Education and Science.

Teachers' Union of Ireland. (2006). *Preliminary findings of TUI survey on second level classroom disruption.* (Retrieved from http://tui.biznet-servers.com/Hot%20Topics/Discipline%20Preliminary%20report.doc).

Teaching Council. (2007). *Professional codes of conduct for teachers*. Maynooth, Co. Kildare: Author. (Retrieved from http://www.teachingcouncil.ie/_fileupload/Publications/finalcodes_34227443.brf.BandW.13jul2007.ck.pdf).

Teaching Council. (2008). *Fás agus forbairt: Strategic plan 2008-2011*. Maynooth: Author.

Teaching Council. (2009). *General and special requirements for teachers of recognised subjects in mainstream post-primary education*. (Retrieved from http://www.teachingcouncil.ie/_fileupload/TC_ProcDocs/General_And_Special_Requirements_19282059.doc#ENGLISH).

Teddlie, C., & Reynolds, D. (Eds.), (2000). *The international handbook of school effectiveness research*. Dordrecht, Netherlands: Springer.

Townsend, T. (Ed.). (2007). *International handbook of school effectiveness and improvement.* Dordrecht, The Netherlands: Springer.

Younger, M., Warrington, M., & Williams, J. (1999). The gender gap and classroom interactions: Reality and rhetoric? *British Journal of Sociology of Education 20*(3), 325-41.

Walters, T., Marzano, R., & McNulty, B. (2003). *Balanced leadership: What 30 years of research tells us about the effect of leadership on student achievement.* Denver, CO: Mid-Continent Research for Education and Learning.

Appendix A – Appendix to Chapter 2

Table A2.1. Percentages of Teachers Reporting that Subject Taught in Target Class was Part of Pre-service Training – Ireland

	% of total		Yes, subject part of pre-service training		No, subject was not part of pre-service training	
	%	(SE)	%	(SE)	%	(SE)
Reading	21.2	(0.76)	92.4	(1.34)	7.6	(1.34)
Mathematics	13.9	(0.75)	90.1	(1.85)	9.3	(1.85)
Science	10.6	(0.52)	95.2	(1.49)	4.8	(1.49)
Social Studies	13.4	(0.59)	87.0	(1.84)	13.0	(1.84)
Modern Foreign Languages	8.8	(0.54)	92.9	(2.04)	7.1	(2.04)
Technology	6.0	(0.51)	93.3	(2.07)	6.7	(2.07)
Arts	5.9	(0.42)	96.7	(1.63)	3.3	(1.63)
Physical Education	3.5	(0.36)	97.0	(2.09)	3.0	(2.09)
Religion	4.4	(0.45)	82.8	(4.60)	17.2	(4.60)
Practical	10.9	(0.61)	92.3	(1.35)	3.7	(1.35)
Other	1.6	(0.30)	79.6	(7.87)	20.4	(7.87)

Table A2.2. Job Tenure in Current School of Lower Secondary Teachers in Ireland and Comparison Countries

	First 2 years		3 – 10 years		11 – 20 years		20+ years	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	9.8	(0.52)	23.6	(0.94)	25.9	(0.90)	40.6	(1.23)
Belgium (Fl.)	13.4	(0.81)	40.0	(1.13)	22.3	(1.11)	24.3	(1.01)
Denmark	21.8	(1.21)	39.0	(1.42)	15.2	(1.20)	24.1	(1.43)
Ireland	16.0	(0.93)	36.2	(1.30)	22.1	(1.15)	25.7	(1.36)
Norway	17.3	(1.26)	40.2	(1.33)	18.5	(1.24)	24.0	(1.38)
Poland	18.5	(0.89)	58.2	(1.99)	14.3	(1.12)	9.0	(1.06)

Table A2.3. Percentages of Lower Secondary Teachers in Ireland in Designated Disadvantaged and Not Designated Disadvantaged Schools by Age Group

	Not Designated Disadvantaged		Designated Disadvantaged	
	%	(SE)	%	(SE)
Under 30	22.1	(1.41)	21.0	(1.66)
30 – 39	29.0	(1.56)	29.6	(1.82)
40 – 49	22.1	(1.29)	21.9	(1.85)
50 or more	26.8	(1.74)	27.5	(1.52)

Table A2.4. Standard Errors Associated with Average Numbers of Students, Teacher Support Ratios and Percentage of Lower Secondary Teachers in Public Schools in Ireland and Comparison Countries

	Mean number of students in schools[1]	Ratio of teachers to number of personnel for pedagogical support[1]	Ratio of teachers to number of school administrative or management personnel[1]	Average class size (at lower secondary level)	Percentage of teachers in public schools
	(SE)	(SE)	(SE)	(SE)	(SE)
Austria	(9.84)	(1.08)	(0.82)	(0.14)	(1.91)
Belgium (Fl.)	(20.15)	(1.63)	(0.73)	(0.27)	(1.39)
Denmark	(20.69)	(0.97)	(0.38)	(0.22)	(1.65)
Ireland	(11.51)	(1.06)	(0.41)	(0.18)	(2.54)
Norway	(10.11)	(0.41)	(0.31)	(0.29)	(1.90)
Poland	(13.35)	(0.56)	(0.48)	(0.27)	(1.48)
TALIS average	(5.21)	(0.27)	(0.09)	(0.07)	(0.37)

[1]Data refer to number of students, ratios or percentages of teachers, in schools where lower-secondary teachers work. They may therefore extend across ISCED levels in schools that span ISCED levels (e.g., schools offering both lower and upper-secondary education).

Table A2.5. Average Hours per Week spent on Teaching, Planning, Administration, Other Activities and in Total, as Reported by Teachers in Ireland and Comparison Countries[1]

	Teaching		Planning		Administration		Other		Total	
	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)	Mean	(SE)
Austria	20.0	(0.07)	15.3	(0.14)	4.3	(0.08)	1.9	(0.07)	41.4	(0.18)
Belgium (Fl.)	20.5	(0.11)	10.8	(0.16)	3.5	(0.08)	1.5	(0.08)	36.4	(0.21)
Denmark	18.8	(0.19)	12.1	(0.19)	3.6	(0.16)	1.7	(0.12)	36.2	(0.28)
Ireland	20.7	(0.08)	8.5	(0.14)	3.8	(0.13)	1.2	(0.08)	34.3	(0.20)
Norway	17.1	(0.14)	12.4	(0.19)	6.1	(0.15)	1.3	(0.10)	36.9	(0.26)

[1]Includes only teachers working full-time and in one school only

Table A2.6. Percentages of Lower Secondary Teachers in Ireland Reporting at least one hour spent on Project Work, Sport or Other Extra-Curricular Activities in a Typical School Week

	%	(SE)
Project Work embedded in the curriculum (i.e. covered during school time) (e.g. Exchange activities, CSPE projects)	57.6	(1.13)
Project Work conducted outside the 'official' school day (e.g. Young Scientist)	24.6	(1.12)
Supervision / Preparation of sports teams outside the official school day	32.3	(1.33)
Other extra-curricular activities completed outside of school time	34.3	(1.34)

Appendix B – Appendix to Chapter 3

Analyses presented below, which are additional to those in the international report, do not include TALIS averages. It is not possible to give accurate TALIS averages other than those contained in the international report, as data from Iceland are not included in the international database.

Table B3.1. Percentages of Teachers in Schools[1] in Ireland and Comparison Countries where Induction is Organised by the School Alone, the Schools along with Outside Agencies, or by Outside Agencies Alone

	% of Teachers in Schools where…					
	induction is organised by the school alone		induction is organised by the school together with agencies or institutions outside of the school		induction is organised by outside agencies or institutions alone	
	%	(SE)	%	(SE)	%	(SE)
Austria	76.9	(3.48)	20.5	(3.34)	2.6	(1.46)
Belgium (Fl.)	53.6	(4.02)	46.4	(4.02)	-	-
Denmark	54.0	(6.05)	45.2	(6.13)	0.8	(0.77)
Ireland	84.9	(3.28)	15.1	(3.28)	-	-
Norway	75.2	(5.48)	23.7	(5.39)	1.0	(1.03)
Poland	84.1	(2.94)	15.5	(2.91)	0.4	(0.38)

[1]Includes only teachers in schools where formal induction takes place

Table B3.2. Percentages of Teachers in Schools in Ireland with Induction for All Teachers New to the School, for All Teachers in their First Job, or Without Induction, by School Type

	Yes, for all teachers new to the school		Yes, but only for those in their first teaching job		No formal induction process	
	%	(SE)	%	(SE)	%	(SE)
Community/ Comprehensive	81.5	(10.29)	10.3	(7.55)	8.2	(7.72)
Secondary	80.0	(5.49)	8.8	(4.26)	11.1	(3.63)
Vocational	92.0	(4.61)	2.5	(1.84)	5.5	(4.22)

Table B3.3. Percentages of Teachers in Ireland and Comparison Countries in Schools where, if a Mentoring Programme is in Place, the Mentor's Subject Area(s) is Usually the Same as that of the New Teacher

	Mentor teacher's main subject area is usually the same as that of the new teacher…			
	Yes		No	
	%	(SE)	%	(SE)
Austria	90.2	(2.66)	9.8	(2.66)
Belgium (Fl.)	31.8	(4.68)	68.2	(4.68)
Denmark	44.3	(5.54)	55.7	(5.54)
Ireland	68.7	(5.95)	31.3	(5.95)
Norway	66.8	(5.40)	33.2	(5.40)
Poland	83.3	(2.85)	16.7	(2.85)

Table B3.4. Percentages of Teachers in Schools in Ireland and Comparison Countries Where the Principal Rates as, 'Not Important', 'Of Low Importance', 'Of Moderate Importance' or 'Of High Importance', Mentoring of New Teachers to Help them Improve their Instructional Effectiveness

	Mentoring is…							
	Not important at all		Of low importance		Of moderate importance		Of high importance	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	0.4	(0.39)	7.1	(1.78)	38.0	(3.23)	54.5	(3.18)
Belgium (Fl.)	-	-	0.9	(0.87)	13.3	(2.98)	85.9	(3.11)
Denmark	0.8	(0.80)	3.7	(1.88)	44.7	(5.05)	50.8	(5.22)
Ireland	-	-	1.4	(1.03)	18.2	(3.78)	80.4	(3.93)
Norway	-	-	-	-	31.4	(3.82)	68.6	(3.82)
Poland	2.4	(1.89)	1.2	(0.73)	31.5	(4.23)	64.9	(4.36)

Table B3.5. Percentages of Teachers in Schools in Ireland with Mentoring for All Teachers New to the School, for All Teachers in their First Job, or Without Mentoring, by School Type

	Yes, for all teachers new to the school		Yes, but only for those in their first teaching job		No formal mentoring process	
	%	(SE)	%	(SE)	%	(SE)
Community/ Comprehensive	62.0	(11.96)	14.5	(8.37)	23.4	(8.49)
Secondary	53.3	(5.97)	13.1	(3.37)	33.6	(6.32)
Vocational	85.6	(4.89)	3.7	(2.73)	10.7	(4.63)

Appendix C – Appendix to Chapter 4

A Note on the Comparability of Indices and Scales Across Countries

A key validity issue in studies such as TALIS involves the extent to which the same sets of items administered to teachers in different countries are comparable, when combined into indices or scales. An important underlying concept in this respect is measurement invariance, defined as 'whether or not, under different conditions of observing and studying phenomena, measurement options yield measures of the same attribute' (Horn & McArdle, 1992, p.117). In establishing cross-country comparability, TALIS differentiate among three levels of invariance (comparability). According to OECD (2009a), these are:

- *Configural invariance,* which is established when the same items are associated with the same underlying factors in all participating countries. This implies an acceptable fit of confirmatory factor analysis models using the same factor structure for all countries;
- *Metric invariance,* which is achieved when the strength of the associations between each of the items and the underlying factor is also equivalent across countries; and
- *Scalar invariance,* which implies that cross-country differences in the means of the observed items are a result of differences in the means of their corresponding factors.

The type of invariance required will relate to the objective of the research. Hence, if the objective is to explore the basic structure of a construct cross-nationally, configural invariance is sufficient. If it is to examine structural relationships with other constructs cross-nationally, both configural and metric invariance are required. Finally if is to conduct cross-national comparisons of mean scores, evidence for all three types of invariance is required. In some cases, measurement invariance of a particular type may not be fully realised. In such circumstances, partial measurement invariance may be invoked as a compromise between full measurement invariance and complete lack of invariance. According to the OECD (2009a), partial scalar invariance is needed to make meaningful comparisons of mean scores across countries in TALIS.

The outcome of confirmatory factor analysis revealed that, for the TALIS indices measuring *teaching beliefs*, *classroom teaching practices* and *co-operation among teaching staff*, configural and metric, but not scalar, invariance had been achieved, and therefore, country means on these indices could not be compared. Further, within-country differences were compared using ipsative mean scores (see Box 4.2). The two school leaderships scales, *administrative* and *instructional leadership*, were also found not to be metric invariant. Again, mean scores on these cannot be compared across countries.

For the indices measuring *classroom disciplinary climate*, *teacher self-efficacy* and *teacher-student relations*, it was established that partial scalar invariance had been achieved, meaning that the results were sufficiently close to allow an examination of the global picture of mean score differences.

Table C4.1. Relationship between Teacher Characteristics and Teachers' Constructivist Beliefs – Ireland (Multiple Regression)

	Coeff.	(SE)	t	p
Gender (female – male)	0.091	(0.052)	1.755	0.082
Subject Taught (Math/Science Teacher – other)	0.092	(0.059)	1.543	0.126
Subject Taught (Humanities Teacher – other)	-0.018	(0.050)	-0.358	0.721
Years teaching experience	-0.004	(0.002)	-1.679	0.096
Teacher qualifications (Masters or above – Bachelor or below)	0.108	(0.064)	1.692	0.094

Note: Variables significant at p<.05 are highlighted in bold; Rsq = .009.

Table C4.2. Frequency of Using Instructional Practices − Percentages of Teachers in Ireland

	Never or hardly ever		Quarter or half of lessons		Three-quarters or more of lessons	
	%	(SE)	%	(SE)	%	(SE)
Index of structuring practices						
Explicitly state learning goals	4.6	(0.56)	37.3	(1.15)	58.2	(1.32)
Review students' homework	5.1	(0.53)	21.4	(0.80)	73.5	(0.91)
Present a short summary of previous lesson	5.1	(0.53)	33.3	(1.31)	61.6	(1.34)
I check my students' exercise books	4.8	(0.51)	34.3	(1.18)	60.1	(1.34)
I check subject matter understood	1.1	(0.21)	12.2	(0.82)	86.8	(0.81)
Index of student-oriented practices						
Small groups to come up with solution to problem	38.4	(1.25)	51.4	(1.10)	10.2	(0.71)
Different work to different students	40.8	(1.35)	39.9	(1.34)	19.4	(0.96)
Students to suggest activities or topics	59.0	(1.15)	35.9	(1.08)	5.2	(0.56)
Students work in groups based upon their abilities	60.0	(1.43)	30.4	(1.17)	9.7	(0.82)
Index of enhanced activities						
Projects that require one week to complete	52.1	(1.19)	35.7	(0.99)	12.2	(0.73)
Make a product that will be used by someone else	83.4	(0.92)	13.0	(0.80)	3.62	(0.47)
Write an essay	68.8	(0.95)	27.6	(0.94)	3.6	(0.42)
Debate	67.0	(1.07)	30.0	(1.05)	3.1	(0.44)

Table C4.3. Frequency of Using Practical Activities – Percentages of Teachers in Ireland, by Subject Group

	Never or hardly ever		Quarter or half of lessons		Three-quarters or more of lessons	
	%	(SE)	%	(SE)	%	(SE)
Reading	34.8	(2.30)	51.6	(2.36)	13.6	(1.67)
Mathematics	42.3	(3.41)	36.9	(3.80)	20.9	(2.47)
Science	0.5	(0.53)	59.1	(3.54)	40.3	(3.51)
Social Studies	32.2	(2.67)	55.2	(2.96)	12.6	(2.18)
Modern Foreign Languages	25.2	(3.18)	53.3	(3.41)	21.6	(3.42)
Technology	2.5	(1.48)	17.1	(3.59)	80.5	(3.87)
Arts	1.0	(1.03)	8.9	(3.29)	90.1	(3.40)
Physical Education	2.5	(1.80)	9.8	(3.43)	87.6	(3.82)
Religion	32.7	(5.54)	57.1	(5.92)	10.2	(3.66)
Practical	9.7	(1.95)	42.3	(3.17)	48.0	(3.32)
Other	18.2	(7.60)	58.7	(9.88)	23.1	(7.71)

Table C4.4. Frequency of Engaging in Co-operative Activities – Percentages of Teachers in Ireland

	Never		One to four times per year		Monthly or weekly	
	%	(SE)	%	(SE)	%	(SE)
Index of Exchange and Co-ordination for Teaching						
Decide on the selection of instructional media	14.5	(0.90)	82.0	(1.00)	3.4	(0.49)
Exchange teaching materials with colleagues	11.5	(0.88)	44.0	(1.16)	44.5	(1.21)
Attend year meetings for the age group I teach	31.9	(1.84)	59.3	(1.77)	8.9	(0.91)
Ensure common standards	24.6	(1.25)	63.7	(1.41)	11.7	(0.61)
Discussion about specific students	16.1	(0.86)	47.0	(1.22)	36.8	(1.23)
Index of Professional Collaboration						
Teach jointly as a team in the same class	75.5	(1.50)	19.0	(0.85)	13.7	(1.22)
Take part in professional learning activities	15.2	(0.88)	73.3	(1.02)	11.5	(0.87)
Observe other teachers' classes	94.9	(0.71)	3.6	(0.60)	1.5	(0.29)
Engage in joint activities across different classes	56.9	(1.21)	38.5	(1.13)	4.6	(0.49)
Discuss and co-ordinate homework practice	57.4	(1.47)	37.1	(1.48)	5.5	(0.60)

Table C4.5. Relationship between Teacher Characteristics and Exchange and Coordination for Teaching – Ireland (Multiple Regression)

	Coeff.	(SE)	t	p
Gender (female – male)	0.162	(0.044)	3.651	**<.001**
Subject Taught (Math/Science Teacher – other)	0.004	(0.042)	0.105	0.917
Subject Taught (Humanities Teacher – other)	0.070	(0.044)	1.596	0.114
Years teaching experience	-0.002	(0.002)	-1.032	0.304
Teacher qualifications (Masters or above – Bachelor or below)	-0.009	(0.054)	-0.168	0.867

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.014.

Table C4.6. Relationship between Teacher Characteristics and Teachers' Professional Collaboration – Ireland (Multiple Regression)

	Coeff.	(SE)	t	p
Gender (female – male)	0.058	(0.024)	2.378	**0.019**
Subject Taught (Math/Science Teacher – other)	-0.026	(0.022)	-1.225	0.224
Subject Taught (Humanities Teacher – other)	-0.004	(0.024)	-0.176	0.861
Years teaching experience	-0.001	(0.001)	-1.259	0.211
Teacher qualifications (Masters or above – Bachelor or below)	-0.010	(0.029)	-0.350	0.727

Note: Variables significant at p<.05 are highlighted in bold; Rsq = 0.007.

Table C4.7. Mean Score Differences in Classroom Disciplinary Climate by School Type, Size, Disadvantaged Status and Gender Composition – Ireland

	Difference	(SED)	CI95L	CI95U
School Size				
Small – Medium	-0.13	(0.137)	-0.46	0.20
Small – Large	-0.17	(0.129)	-0.48	0.15
Medium – Large	-0.04	(0.074)	-0.22	0.14
School Type				
Community/Comprehensive – Vocational	0.01	(0.115)	-0.27	0.29
Community/Comprehensive – Secondary	-0.38	(0.094)	**-0.60**	**-0.15**
Secondary – Vocational	0.38	(0.082)	**0.18**	**0.58**
School Disadvantaged Status				
Disadvantaged – Not Designated	-0.37	(0.079)	**-0.53**	**-0.22**
School Gender Composition				
Male – Female	-0.05	(0.090)	-0.27	0.17
Male – Mixed Sex	0.21	(0.083)	**0.01**	**0.41**
Female – Mixed Sex	0.26	(0.072)	**0.09**	**0.44**

Note: Difference = mean difference; SED = standard error of difference; CI95L, CI95U = Bonferroni-adjusted 95% confidence intervals. Confidence intervals for significant differences ($p \leq 0.05$) are highlighted in bold.

Table C4.8. Mean Score Differences in Teacher-Student Relations by School Type, Size, Gender Composition and Disadvantaged Status – Ireland

	Difference	(SED)	CI95L	CI95U
School Size				
Small – Medium	0.17	(0.087)	-0.04	0.39
Small – Large	0.20	(0.077)	**0.01**	**0.39**
Medium – Large	0.03	(0.081)	-0.17	0.22
School Type				
Community/Comprehensive – Vocational	0.12	(0.095)	-0.12	0.35
Community/Comprehensive – Secondary	0.00	(0.095)	-0.23	0.23
Secondary – Vocational	0.11	(0.080)	-0.08	0.31
School Disadvantaged Status				
Disadvantaged – Not Designated	-0.13	(0.069)	-0.26	0.01
School Gender Composition				
Male – Female	-0.46	(0.152)	**-0.83**	**-0.09**
Male – Mixed Sex	-0.16	(0.126)	-0.46	0.15
Female – Mixed Sex	0.31	(0.102)	**0.06**	**0.56**

Note: Difference = mean difference; SED = standard error of difference; CI95L, CI95U = Bonferroni-adjusted 95% confidence intervals. Confidence intervals for significant differences ($p \leq 0.05$) are highlighted in bold.

Table C4.9. Mean Score Differences in Teachers' Self-Efficacy by School Type, Size, Gender Composition and Disadvantaged Status – Ireland

	Difference	(SED)	CI95L	CI95U
School Size				
Small – Medium	-0.10	(0.082)	-0.30	0.10
Small – Large	-0.01	(0.081)	-0.21	0.19
Medium – Large	0.09	(0.054)	-0.04	0.22
School Type				
Community/Comprehensive – Vocational	-0.05	(0.074)	-0.23	0.13
Community/Comprehensive – Secondary	-0.24	(0.059)	**-0.38**	**-0.09**
Secondary – Vocational	0.19	(0.068)	**0.02**	**0.35**
School Disadvantaged Status				
Disadvantaged – Not Designated	-0.20	(0.054)	**-0.31**	**-0.09**
School Gender Composition				
Male – Female	-0.13	(0.084)	-0.34	0.07
Male – Mixed Sex	0.08	(0.059)	-0.07	0.22
Female – Mixed Sex	0.21	(0.075)	**0.03**	**0.39**

Note: Difference = mean difference; SED = standard error of difference; CI95L, CI95U = Bonferroni-adjusted 95% confidence intervals. Confidence intervals for significant differences ($p \leq 0.05$) are highlighted in bold.

Table C4.10. Relationship between Teacher Characteristics and Self Efficacy – Ireland (Multiple Regression)

	Coeff.	(SE)	t	p
Gender (female – male)	0.049	(0.058)	0.848	0.399
Subject Taught (Math/Science Teacher – other)	0.043	(0.080)	0.539	0.591
Subject Taught (Humanities Teacher – other)	0.081	(0.055)	1.477	0.143
Years teaching experience	0.004	(0.003)	1.674	0.097
Teacher qualifications (Masters or above – Bachelor or below)	0.057	(0.086)	0.661	0.510

Note: Variables significant at p<.05 are highlighted in bold; Rsq =0.003.

Table C4.11. Percentages of Teachers Who Agree or Strongly Agree That, All in All, They are Happy in Their Jobs, by School Size, School Type, School Disadvantaged Status, and School Gender Composition – Ireland

	%	(SE)
School Size		
Small	86.8	(2.61)
Medium	89.2	(1.17)
Large	90.1	(1.12)
School Type		
Community or Comprehensive	89.9	(1.69)
Secondary	89.9	(1.05)
Vocational	88.7	(1.71)
School Disadvantaged Status		
Disadvantaged	88.5	(1.55)
Not designated	90.2	(0.90)
School Gender Composition		
All Male	88.6	(1.71)
All Female	92.0	(1.23)
Mixed-Sex	88.9	(1.13)

Table C4.12. Estimates for Between-School Variance on Outcome Variables – Ireland

	%
Direct transmission beliefs	1.07
Constructivist beliefs	2.65
Use of structuring practices	0.85
Use of student-oriented practices	4.01
Use of enhanced activities	3.26
Exchange and co-ordination for teaching	12.81
Professional collaboration	13.92
Classroom disciplinary climate	11.51
Teacher-student relations	12.31
Teacher self-efficacy	2.26
Job satisfaction	0.33

Appendix D – Appendix to Chapter 5

Table D5.1. Percentages of Teachers with More than Two Years Experience, and Two or Fewer Years of Experience Who Received/Did Not Receive Appraisal/Feedback – Ireland and Comparison Countries

		Received Appraisal/Feedback		No Appraisal/Feedback (Last 5 Years)	
	Experience	%	(SE)	%	(SE)
Austria	More than 2 years	89.4	(0.62)	10.6	(0.62)
	Two years or less	83.7	(3.03)	16.3	(3.03)
Belgium (Fl.)	More than 2 years	91.8	(0.70)	8.2	(0.70)
	Two years or less	94.7	(1.21)	5.4	(1.21)
Denmark	More than 2 years	92.6	(0.87)	7.4	(0.87)
	Two years or less	92.5	(2.90)	7.5	(2.90)
Ireland	More than 2 years	74.4	(1.13)	25.6	(4.44)
	Two years or less	74.2	(4.44)	25.8	(4.44)
Norway	More than 2 years	84.1	(0.91)	15.9	(0.91)
	Two years or less	81.1	(3.47)	18.9	(3.47)
Poland	More than 2 years	93.6	(0.57)	6.4	(0.57)
	Two years or less	79.7	(2.89)	20.3	(2.89)

Table D5.2. Percentages of Teachers Whose Principals Indicated that Various Criteria Were Considered with High or Moderate Importance in School Evaluations and Percentages of Teachers Who Indicated that Various Criteria Were Considered with these Levels of Importance in Teacher Appraisal/Feedback

	School Evaluation (Principals)		Teacher Appraisal/Feedback (Teachers)	
Criterion	%	(SE)	%	(SE)
Relations with students	94.5	(2.89)	86.1	(1.15)
Classroom management	93.1	(2.95)	84.7	(1.34)
Knowledge and understanding of main subject field(s)	90.5	(3.71)	82.4	(1.16)
Knowledge and understanding instructional practices in subject field(s)	91.6	(2.88)	80.1	(1.28)
Student discipline and behaviour	91.9	(3.53)	79.9	(1.42)
How well teacher(s) work with the principal and colleagues	82.3	(5.17)	74.0	(1.23)
Student test scores (including in-house and state exams)	80.5	(4.91)	72.0	(1.51)
Retention and pass rates of students	84.2	(4.67)	70.9	(1.70)
Direct appraisal of classroom teaching	75.7	(5.69)	69.5	(1.45)
Innovative teaching practices	90.3	(3.85)	68.6	(1.40)
Student learning outcomes other than test scores and retention and pass rates	80.9	(5.07)	67.7	(1.70)
Feedback from parents	76.1	(5.77)	66.8	(1.41)
Extra-curricular activities with students	85.6	(3.89)	63.5	(1.48)
Student feedback on teaching	55.8	(6.80)	59.4	(1.51)
Professional development undertaken	93.2	(2.91)	58.0	(1.63)
Teaching students with special learning needs	97.5	(1.99)	56.4	(1.91)
Teaching in multicultural setting	62.9	(5.69)	40.1	(2.19)

Source: OECD (2009), Tables 5.1 and 5.4.

Table D5.3. Path Analyses Coefficients for Teaching in a Multicultural Setting – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	**0.11** (0.05)	**0.21** (0.04)	**0.15** (0.04)	**0.12** (0.04)	**0.31** (0.03)	**0.05** (0.02)	**0.20** (0.01)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.28** (0.02)	**0.32** (0.02)	**0.38** (0.03)	**0.30** (0.02)	**0.34** (0.03)	**0.36** (0.03)	**0.51** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.47** (0.02)	**0.46** (0.02)	**0.57** (0.04)	**0.18** (0.03)	**0.12** (0.03)	**0.38** (0.03)	**0.20** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009). Chapter 5 – Supplementary Tables. Path Analysis: Country Results: Multicultural Setting. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

Table D5.4. Path Analyses Coefficients for Classroom Management – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	0.00 (0.02)	0.00 (0.03)	-0.01 (0.04)	0.09 (0.08)	**0.10** (0.03)	0.01 (0.02)	**0.09** (0.01)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.07** (0.02)	**0.15** (0.02)	**0.13** (0.03)	**0.09** (0.03)	**0.15** (0.03)	**0.23** (0.03)	**0.30** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.27** (0.02)	**0.32** (0.02)	**0.30** (0.04)	**0.20** (0.03)	**0.22** (0.02)	**0.27** (0.03)	**0.15** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009). Chapter 5 – Supplementary Tables. Path Analysis: Country Results: Classroom Management. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

Table D5.5. Path Analyses Coefficients for Teachers' Handling of Student Discipline and Behaviour Problems – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	0.02 (0.02)	-0.01 (0.03)	0.00 (0.03)	-0.05 (0.05)	**0.04** (0.02)	**0.05** (0.03)	**0.08** (0.01)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.08** (0.02)	**0.25** (0.02)	**0.26** (0.02)	**0.15** (0.03)	**0.16** (0.03)	**0.18** (0.02)	**0.32** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.25** (0.02)	**0.41** (0.02)	**0.39** (0.04)	**0.22** (0.03)	**0.23** (0.02)	**0.34** (0.02)	**0.15** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009). Chapter 5 – Supplementary Tables. Discipline and Behaviour. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

Table D5.6. Path Analyses Coefficients for Teachers' Knowledge and Understanding of Main Subject Field – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	0.03 (0.02)	-0.01 (0.03)	0.03 (0.04)	0.07 (0.04)	0.03 (0.03)	0.02 (0.02)	**0.13** (0.02)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.11** (0.02)	**0.15** (0.02)	**0.19** (0.03)	**0.07** (0.03)	**0.15** (0.03)	**0.14** (0.03)	**0.37** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.20** (0.02)	**0.28** (0.02)	**0.28** (0.03)	**0.24** (0.03)	**0.17** (0.02)	**0.32** (0.03)	**0.18** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009). Chapter 5 – Supplementary Tables. Knowledge and Understanding of Main Subject Field. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

Table D5.7. Path Analyses Coefficients for Teachers' Knowledge and Understanding of Instructional Practices in Their Main Subject Field – Ireland, Comparison Countries and Pooled TALIS Countries

	AUT	BFL	DEN	IRL	NOR	POL	TALIS (Pooled)
Importance in school evaluation on. . . Importance in teacher appraisal and feedback.	**0.06** (0.02)	-0.01 (0.03)	0.02 (0.04)	**0.08** (0.04)	0.05 (0.03)	0.03 (0.02)	**0.11** (0.01)
Importance in teacher appraisal and feedback on. . . Extent of change in teacher practices and teachers' work.	**0.13** (0.02)	**0.16** (0.02)	**0.19** (0.03)	**0.15** (0.03)	**0.25** (0.03)	**0.18** (0.03)	**0.38** (0.01)
Extent of change in teacher practices and teachers' work on. . . Teachers' professional development needs	**0.18** (0.02)	**0.21** (0.02)	**0.25** (0.03)	**0.17** (0.03)	**0.16** (0.02)	**0.27** (0.02)	**0.16** (0.01)

Statistically significant coefficients in bold. Standard errors in brackets.
Source: OECD (2009). Chapter 5 – Supplementary Tables. Knowledge and Understanding of Instructional Practice. Accessed at: http://www.oecd.org/dataoecd/45/61/43043949.xls

Appendix E – Appendix to Chapter 6

Table E6.1. Percentages of Principals by Age Group – Ireland and Comparison Countries

	Under 40		40 – 49		50 – 59		60 or over	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	1.9	(1.00)	14.9	(2.46)	66.9	(3.33)	16.3	(2.96)
Belgium (Fl.)	8.7	(2.26)	30.5	(4.59)	56.2	(4.85)	4.7	(1.61)
Denmark	2.6	(1.34)	19.1	(4.16)	64.6	(5.37)	13.8	(4.49)
Ireland	5.3	(2.01)	20.1	(4.04)	61.6	(4.53)	13.0	(3.35)
Norway	8.2	(2.53)	19.2	(3.18)	55.3	(4.46)	17.4	(3.17)
Poland	14.7	(3.35)	52.2	(4.63)	28.9	(4.68)	3.9	(1.32)

Table E6.2. Percentages of Principals by Level of Education – Ireland and Comparison Countries

	Below Bachelor degree		Bachelor degree		Masters degree		Ph.D.	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	71.7	(2.69)	0.7	(0.70)	22.3	(2.53)	5.3	(1.10)
Belgium (Fl.)	37.4	(3.92)	2.0	(0.84)	57.5	(4.10)	3.1	(2.36)
Denmark	1.4	(1.38)	82.7	(6.61)	14.6	(6.47)	1.3	(0.99)
Ireland	2.3	(1.37)	62.6	(4.60)	32.9	(4.44)	2.1	(1.25)
Norway	–	–	70.0	(4.13)	28.8	(3.98)	1.2	(1.16)
Poland	0.4	(0.41)	1.1	(0.64)	96.9	(1.11)	1.6	(1.13)

Table E6.3. Percentages of Principals by Length of Time Spent as Subject/Class Teacher Prior to Becoming Principal – Ireland and Comparison Countries

	5 yrs or less		6 – 10 yrs		11 – 15 yrs		16 – 20 yrs		More than 20 yrs	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Austria	0.9	(0.78)	2.1	(0.69)	9.8	(2.42)	28.2	(3.78)	58.9	(4.16)
Belgium (Fl.)	4.7	(1.57)	13.8	(3.47)	17.1	(2.83)	25.1	(3.92)	29.3	(3.85)
Denmark	18.7	(6.71)	21.7	(4.82)	27.5	(6.47)	19.4	(4.47)	12.7	(3.11)
Ireland	1.5	(1.09)	7.3	(2.49)	18.5	(3.82)	19.5	(4.00)	53.1	(4.90)
Norway	11.5	(2.85)	20.2	(3.66)	26.7	(3.04)	21.3	(3.71)	20.3	(3.59)
Poland	12.2	(3.80)	23.1	(3.68)	24.6	(3.64)	19.9	(3.47)	20.1	(4.62)

Table E6.4. Percentages of Principals Who Report Using Various Activities and Behaviours 'Quite Often' or 'Very Often' During the Current School Year – Comparison Countries

	Austria		Belgium (Fl.)		Denmark		Norway		Poland	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Management-school goals index										
Professional development activities of teachers	77.2	(2.42)	93.2	(2.87)	82.1	(7.10)	93.5	(1.63)	98.3	(1.01)
School's educational goals	92.4	(1.76)	99.1	(0.88)	84.2	(6.98)	96.2	(1.66)	99.2	(0.79)
Student performance results	66.3	(3.36)	65.0	(3.72)	44.7	(7.01)	82.0	(3.31)	98.0	(1.07)
Exam results taken in to account	17.7	(2.99)	66.3	(4.61)	38.0	(5.83)	61.3	(4.48)	83.6	(3.87)
Clarity re. curriculum	70.6	(3.56)	76.6	(4.48)	85.9	(4.05)	87.5	(3.15)	84.7	(3.96)
Goals / development plan	95.4	(1.56)	97.1	(1.47)	96.8	(1.95)	97.7	(1.21)	97.5	(1.37)
Instructional management index										
Initiative to discuss problems	88.2	(2.63)	86.7	(3.46)	95.8	(2.03)	91.9	(2.20)	91.1	(2.24)
Updating their knowledge and skills.	87.4	(2.49)	89.8	(3.10)	97.4	(1.45)	90.6	(2.54)	95.0	(1.77)
Solve problem together	94.4	(2.10)	96.6	(2.36)	97.2	(2.06)	95.9	(1.06)	94.7	(1.77)
Disruptive behaviour in classrooms	94.5	(1.64)	95.4	(1.71)	99.3	(0.68)	96.6	(1.76)	92.5	(2.15)
Direct supervision of instruction in the school index										
Observe instruction in classrooms	29.6	(3.69)	38.8	(4.43)	19.6	(4.03)	28.3	(4.41)	90.2	(2.64)
Give teachers suggestions	62.0	(4.00)	57.4	(4.39)	50.4	(5.98)	59.6	(3.98)	91.4	(2.08)
I monitor students' work	86.8	(2.15)	50.7	(4.59)	95.6	(2.08)	24.2	(3.91)	89.7	(2.59)
Check classroom activities	68.1	(2.91)	56.8	(4.57)	63.5	(7.56)	64.1	(3.90)	91.0	(2.24)

Table E6.5. Percentages of Principals who 'Agree' or 'Strongly Agree' with Statements in the Indices of Accountable Management and Bureaucratic Management – Comparison Countries

	Austria		Belgium (Fl.)		Denmark		Norway		Poland	
	%	(SE)	%	(SE)	%	(SE)	%	(SE)	%	(SE)
Accountable Management Index										
Department of Education approved approaches	80.3	(2.58)	83.5	(3.24)	59.3	(6.97)	91.8	(2.19)	85.5	(4.62)
Improving teaching skills	75.8	(3.43)	97.4	(1.33)	90.8	(3.09)	97.6	(1.43)	78.7	(3.48)
Teachers held accountable	68.5	(3.80)	94.5	(1.71)	90.2	(4.09)	91.2	(2.37)	91.5	(2.45)
New ideas to parents	88.3	(2.41)	78.1	(4.31)	86.7	(2.59)	90.4	(2.62)	92.6	(2.83)
Bureaucratic Management Index										
Sticks to rules	90.5	(2.01)	95.5	(1.80)	70.9	(6.57)	93.6	(1.89)	98.6	(0.75)
Check for mistakes	74.3	(3.14)	85.8	(2.52)	65.1	(6.57)	94.7	(1.89)	77.8	(4.80)
Resolve problems – timetable	65.4	(3.10)	50.8	(4.82)	59.0	(5.83)	75.8	(3.49)	87.1	(2.39)
Orderly atmosphere	93.7	(1.69)	87.9	(3.43)	100.0	(0.00)	97.7	(1.36)	97.2	(1.63)
Task-oriented atmosphere	91.9	(1.73)	92.4	(2.93)	96.3	(3.43)	98.6	(1.01)	94.0	(2.61)

Appendix F – Appendix to Chapter 7

Ordinary Least Squares Regression

As the estimates for between-school variance in teacher self-efficacy and classroom climate were generally found to be low across TALIS countries, ordinary least squares regression rather than multi-level modelling was used by the OECD to examine relationships between each of these outcomes and various other teacher and school variables. Although a detailed description of the procedures used is provided by the OECD (2009, pp.284-287), a summary is provided here for convenience. Note that missing data were imputed using multiple imputation (see OECD, 2009, p.285).

The regression procedure involved grouping conceptually-related variables in to blocks, with one block representing each of the themes addressed in Chapters 2 to 6 (variables from Chapter 2 were split across two blocks). A seventh block included socio-economic and background characteristics. The same blocks of independent variables were used in the regressions of teacher self-efficacy and classroom climate. Separate regressions were conducted for each country participating in TALIS.

The first step in the analysis involved examining the significance of each variable within its block; those which were significant ($p<0.05$) were retained in the block. A separate model was estimated for each block, resulting in a 'gross model'. The next step involved entering the socioeconomic block along with each one of the analytic blocks in the model (giving two blocks at a time in the model). These were called 'net models'. The final net models include only those variables from each block that were statistically significant in the presence of the other blocks, socio-economic variables and Bloc 1 (teacher background variables). Final net models for Ireland are given below in tables F7.1 (teacher self-efficacy) and F7.2 (classroom disciplinary climate).

Table F7.1. Significant Variables in the Final Multiple Regression Model of Teacher Self-Efficacy - Ireland

	Coefficient	(SE)
Index of accountable management	0.092	(0.036)
Public school	-0.134	(0.068)
Teacher appraisal and feedback impact: public-private recognition from the principal and/or your colleagues	0.136	(0.064)
Index of constructivist beliefs about instruction	0.115	(0.027)
Index of direct transmission beliefs about instruction	0.128	(0.031)
Index of classroom teaching practice: enhanced activities	0.190	(0.049)
Index of classroom teaching practice: structuring	0.190	(0.032)
Index of teacher-student relations	0.311	(0.026)

Source: OECD (2009) http://www.oecd.org/dataoecd/55/12/43089354.xls

Table F7.2. Significant Variables in the Final Multiple Regression Model of Classroom Climate – Ireland

	Coefficient	(SE)
School average class size	-0.009	(0.004)
Teacher employed full-time	0.148	(0.071)
Teacher level: ability of students in class higher than the average at the same grade level	0.303	(0.061)
Teacher level: ability of students in class lower than the average at the same grade level	-0.506	(0.083)
Teacher employed on a permanent contract	0.229	(0.074)
Index of school climate: student delinquency	-0.116	(0.052)
Teacher level: percentage of students in class with at least one parent with completed ISCED 5 or higher	0.395	(0.133)
Index of classroom teaching practice: structuring	0.269	(0.028)
Index of teacher-student relations	0.082	(0.027)
School level: ability of students in class lower than the average	-0.792	(0.195)

Source: OECD (2009) http://www.oecd.org/dataoecd/55/12/43089354.xls

Table F7.3. Classroom Climate: School-level Variables Tested as Separate Models by Addition to the Null Random Intercept Model

	Parameter	SE	Test Statistic	df	p-value
School-level					
Class size	0.03	0.014	t=2.097	140	0.037
Proportion of students – low ability	-1.63	0.177	t=-9.201	140	<0.001
Proportion of students – high ability	1.44	0.210	t=6.847	140	<0.001
Proportion of students who speak a foreign language at home	0.71	0.420	t=1.695	140	0.092
Proportion of students whose parents have a degree	1.46	0.203	t=7.184	140	<0.001
School Support Progamme under DEIS					
(In SSP – not in SSP)	-0.46	0.088	t=-5.168	140	<0.001
School Type					
Community/Comp. – Sec	-0.35	0.102	Ddiff=19.73	2	<0.001
Vocational – Secondary	-0.36	0.095			
School Gender Composition					
Mixed – Single Sex	-0.23	0.082	t=-2.770	140	0.007
School Size					
Small – Medium	-0.074	0.145	Ddiff=1.007	2	0.604
Large – Medium	0.04	0.089			
School Location					
Rural – Town	0.06	0.101	Ddiff=1.237	2	0.539
City – Town	0.11	0.110			
Teacher-student relations	0.12	0.042	t=2.869	140	0.005
Teacher co-operation	0.02	0.045	t=0.507	140	<0.001
Student delinquency	-0.12	0.044			
Missing indicator for delinquency	0.07	0.109	Ddiff=10.146	2	0.006

Table F7.4. Classroom Climate: Teacher-level Variables Tested as Separate Models by Addition to the Null Random Intercept Model

	Parameter	SE	Test Statistic	df	p-value
Teacher/Classroom-level					
Large class size (Above Irish average – Not)	0.15	0.050	t=2.983	1915	0.003
Student ability					
Low ability – Average	-0.61	0.077	Ddiff=207.120	2	<0.001
High ability – Average	0.34	0.056			
Foreign language	-0.16	0.110	t=-1.470	1915	0.142
Parents with degrees	0.84	0.137	Ddiff=45.395	2	<0.001
Missing indicator	0.00	0.085			
Special Duties	0.22	0.052	t=4.264	1915	<0.001
Gender (female – male)	0.12	0.056	t=2.073	1915	0.038
Employment status (Full-time – part-time)	0.35	0.069	t=5.006	1915	<0.001
Contractual Status (Permanent – Temporary)	0.31	0.060	t=5.252	1915	<0.001
Teacher education (Masters or above – Degree or below)	-0.04	0.073	t=-0.538	1915	0.590
Years of experience	0.01	0.002	t=3.352	1915	0.001
Teacher-student relations	0.14	0.027	t=5.068	1915	<0.001
Teacher's use of structuring activities	0.21	0.023	t=9.274	1915	<0.001
Teacher's use of student-oriented activities	0.00	0.027	t=0.139	1915	0.890
Teacher's use of enhanced activities	-0.03	0.024	t=-1.262	1915	0.207
Teacher's direct transmission beliefs	0.01	0.028	t=0.356	1915	0.721
Teacher's constructivist beliefs	0.03	0.025	t=1.277	1915	0.202
Teacher's exchange and co-ordination for teaching (co-operation)	0.10	0.024	t=4.093	1915	<0.001
Meet parents regularly (Three or more times per yr – less often)	0.09	0.051	t=1.817	1915	0.069
Engage in counselling or pastoral care regularly (Three or more times per yr – less often)	0.14	0.055	t=2.545	1915	0.011

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ISBN: 978 0 900440 26 7