



Teaching Practices and Pedagogical Innovation

EVIDENCE FROM TALIS



Teaching And Learning International Survey
Centre for Educational Research and Innovation



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Svenja Vieluf, David Kaplan, Eckhard Klieme, Sonja Bayer

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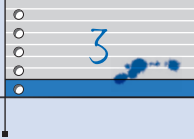
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Foreword

The eagerness to continually improve the educational experience of students has been growing steadily around the world. We are now more aware of how teaching practices help shape the student learning experience and advance motivation and achievement. When teachers work well together they tend to also work well with students. So, it has become important to encourage teachers to share more of their expertise and experience and in ways that go beyond the mere exchange of information.

This instructive publication, *Teaching Practices and Pedagogical Innovation: Evidence from TALIS*, is using the Teaching and Learning International Survey (TALIS) 2008 data. It precisely identifies and arranges profiles in relation to two connected areas of professional teacher practices: classroom teaching practices and participation in professional learning communities. It compares these profiles across different educational systems and examines evidence and links to inputs and processes.

As teachers perform energetically in the classroom they are simultaneously professionally active in co-operation and collaboration with colleagues. This relationship is achieved through the exchange of ideas, information and instructional materials, such as in meetings to discuss student progress and in collective learning activities. One of the key messages of this report is that teacher collaboration helps support teacher reflection. Therefore, it is an essential feature of professional practice.

This report has been commissioned by the Centre for Educational Research and Innovation (CERI) as part of its Innovative Teaching for Effective Learning (ITEL) project. ITEL draws on OECD work about teachers and teaching such as TALIS. It focuses on the pedagogical core of the teaching profession, namely the pedagogical knowledge base of teachers. It questions whether this knowledge base is still in tune with recent advancements in learning research and with new skills demands that society expects from students.

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Barbara Ischinger

Barbara Ischinger

Director for Education, OECD

Table of Contents

FOREWORD.....	3
EXECUTIVE SUMMARY.....	13
CHAPTER 1	
INTRODUCTION.....	17
Rationale and aims of the report.....	18
Outline of the report.....	18
Background and main findings.....	19
Readers' guide.....	21
<i>References</i>	22
CHAPTER 2	
TEACHERS' PROFESSIONAL PRACTICES.....	25
Highlights.....	26
Classroom teaching practices.....	27
Philosophies of learning and teaching.....	28
Research in educational effectiveness.....	29
Correlates of classroom teaching practices.....	31
Professional learning communities.....	32
Conditions that facilitate the development of professional learning communities.....	36
Formal conditions at the school level.....	36
Social conditions at the school level.....	36
Teachers' professional practices in a cross-national comparison.....	37
Teachers' professional practices and educational innovation.....	38
Conclusions.....	40
<i>References</i>	42
CHAPTER 3	
ANALYSING TEACHERS' PROFESSIONAL PRACTICES WITH TALIS DATA.....	49
Highlights.....	50
Teaching Practices in TALIS 2008.....	51
Professional Learning Communities in TALIS 2008.....	52
Other Relevant Variables in TALIS 2008.....	53
Measures.....	53
Items and scales used in latent profile analysis.....	53
Items and scales used as independent variables in multilevel latent profile regression analysis.....	55
Single items.....	55
Indices and scales.....	57

Participants.....	58
Statistical modelling.....	59
Analytic sequence	60
<i>References</i>	62

CHAPTER 4

PROFILES OF TEACHERS' PROFESSIONAL PRACTICES	63
Highlights.....	64
Latent profiles of classroom teaching practices.....	65
Country-specific results: Classroom teaching practices.....	65
Summary of country-specific effects on profiles of classroom teaching practices.....	84
Teacher-level effects across countries.....	84
School-level effects across countries.....	84

CHAPTER 5

PROFILES OF PARTICIPATION IN PROFESSIONAL LEARNING COMMUNITIES	87
Highlights.....	88
Latent profiles of participation in professional learning communities.....	89
Country-specific results: Participation in professional learning communities.....	89
Summary of country specific effects on profiles of participation in professional learning communities.....	108
Teacher-level effects across countries.....	109
School-level effects across countries.....	110

CHAPTER 6

KEY FINDINGS AND POLICY IMPLICATIONS	111
Highlights.....	112
Cross-national comparisons of latent profiles of professional practices.....	113
Regressions of latent profiles on teacher- and school-level variables.....	115
Summary.....	117
Conclusions.....	121
<i>References</i>	123

ANNEX A

Multilevel Latent Profile Analysis	125
Multilevel latent class analysis.....	126
Addition of predictors to the MLPA model.....	127
Estimation of the multilevel latent profile model.....	128
Measures of model adequacy.....	128
<i>References</i>	130

ANNEX B

Model Fit for Latent Profile Analysis with Different Numbers of Profiles	131
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ANNEX C

Results of Multilevel Multinomial Regression Analyses	145
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FIGURES

Figure 2.1	Model of “Essential supports” (left) and “Classroom black box” (right).....	31
Figure 3.1	Education systems participating in TALIS 2008.....	59
Figure 4.1	Latent profiles of classroom teaching practices for Belgium (Flemish Community), Ireland, Italy, and Malta.....	66
Figure 4.2	Latent profiles of classroom teaching practices for Australia, Estonia, and Portugal.....	68
Figure 4.3	Latent profiles of classroom teaching practices for Austria, Bulgaria, Hungary, Lithuania, Poland, the Slovak Republic, and Slovenia.....	70
Figure 4.4	Latent profiles of classroom teaching practices for Malaysia and Turkey.....	74
Figure 4.5	Latent profiles of classroom teaching practices for Brazil, Denmark, Iceland, Korea, Mexico, Norway and Spain.....	75
Figure 5.1	Latent profiles of participation in professional learning communities for Austria, Belgium (Flemish Community), Bulgaria, Estonia, Hungary, Iceland, Italy, Norway, Poland, and Turkey.....	90
Figure 5.2	Latent profiles of participation in professional learning communities for Ireland, Malta, Mexico, and Spain.....	95
Figure 5.3	Latent profiles of participation in professional learning communities for Australia, Brazil, and Denmark.....	97
Figure 5.4	Latent profiles of participation in professional learning communities for Korea, Lithuania, Malaysia, Portugal, the Slovak Republic and Slovenia.....	99
Figure A.1	Latent class analysis model with continuous latent class indicators.....	126
Figure A.2	Multilevel latent profile analysis model with predictors.....	128

TABLES

Table 3.1	Items wording of classroom teaching practices items and dimensions.....	54
Table 3.2	Item wording of professional learning communities items and dimensions.....	55
Table 4.1	Results of multinomial multilevel regression predicting teacher membership in profiles of classroom teaching practices – overview over teacher level effects in all countries.....	84
Table 4.2	Results of multinomial multilevel regression predicting teacher membership in profiles of classroom teaching practices – overview over school level effects in all countries.....	85
Table 5.1	Results of multinomial multilevel regression predicting teacher membership in profiles of participation in professional learning communities – overview over teacher level effects in all countries.....	108
Table 5.2	Results of multinomial multilevel regression predicting teacher membership in profiles of participation in professional learning communities – overview over school level effects in all countries.....	109
Table B.1	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Australia.....	132
Table B.2	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Austria.....	132
Table B.3	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Belgium (Flemish community).....	132
Table B.4	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Brazil.....	132

Table B.5	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Bulgaria.....	133
Table B.6	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Denmark.....	133
Table B.7	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Estonia.....	133
Table B.8	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Hungary.....	133
Table B.9	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Iceland.....	134
Table B.10	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Ireland.....	134
Table B.11	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Italy.....	134
Table B.12	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Korea.....	134
Table B.13	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Lithuania.....	135
Table B.14	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Malaysia.....	135
Table B.15	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Malta.....	135
Table B.16	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Mexico.....	135
Table B.17	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Norway.....	136
Table B.18	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Poland.....	136
Table B.19	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Portugal.....	136
Table B.20	Model fit for latent profile analysis with different numbers of profiles of teaching practices for the Slovak Republic.....	136
Table B.21	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Slovenia.....	137
Table B.22	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Spain.....	137
Table B.23	Model fit for latent profile analysis with different numbers of profiles of teaching practices for Turkey.....	137
Table B.24	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Australia.....	137
Table B.25	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Austria.....	138
Table B.26	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Belgium (Flemish community).....	138
Table B.27	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Brazil.....	138
Table B.28	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Bulgaria.....	138

Table B.29	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Denmark.....	139
Table B.30	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Estonia.....	139
Table B.31	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Hungary.....	139
Table B.32	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Iceland.....	139
Table B.33	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Ireland.....	140
Table B.34	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Italy.....	140
Table B.35	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Korea.....	140
Table B.36	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Lithuania.....	140
Table B.37	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Malaysia.....	141
Table B.38	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Malta.....	141
Table B.39	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Mexico.....	141
Table B.40	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Norway.....	141
Table B.41	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Poland.....	142
Table B.42	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Portugal.....	142
Table B.43	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for the Slovak Republic.....	142
Table B.44	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Slovenia.....	142
Table B.45	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Spain.....	143
Table B.46	Model fit for latent profile analysis with different numbers of profiles of participation in professional learning communities for Turkey.....	143
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Table C.1	Multilevel multinomial regression analysis for teaching practices for Australia.....	147
Table C.2	Multilevel multinomial regression analysis for teaching practices for Austria.....	147
Table C.3	Multilevel multinomial regression analysis for teaching practices for Belgium (Flemish community).....	148
Table C.4	Multilevel multinomial regression analysis for teaching practices for Bulgaria.....	148
Table C.5	Multilevel multinomial regression analysis for teaching practices for Brazil.....	149
Table C.6	Multilevel multinomial regression analysis for teaching practices for Denmark.....	149
Table C.7	Multilevel multinomial regression analysis for teaching practices for Estonia.....	150
Table C.8	Multilevel multinomial regression analysis for teaching practices for Hungary.....	150
Table C.9	Multilevel multinomial regression analysis for teaching practices for Iceland.....	151
Table C.10	Multilevel multinomial regression analysis for teaching practices for Ireland.....	151
Table C.11	Multilevel multinomial regression analysis for teaching practices for Italy.....	152
Table C.12	Multilevel multinomial regression analysis for teaching practices for Korea.....	152

Table C.13	Multilevel multinomial regression analysis for teaching practices for Lithuania	153
Table C.14	Multilevel multinomial regression analysis for teaching practices for Malaysia	153
Table C.15	Multilevel multinomial regression analysis for teaching practices for Malta	154
Table C.16	Multilevel multinomial regression analysis for teaching practices for Mexico	154
Table C.17	Multilevel multinomial regression analysis for teaching practices for Norway	155
Table C.18	Multilevel multinomial regression analysis for teaching practices for Poland	155
Table C.19	Multilevel multinomial regression analysis for teaching practices for Portugal	156
Table C.20	Multilevel multinomial regression analysis for teaching practices for the Slovak Republic	156
Table C.21	Multilevel multinomial regression analysis for teaching practices for Slovenia	157
Table C.22	Multilevel multinomial regression analysis for teaching practices for Spain	157
Table C.23	Multilevel multinomial regression analysis for teaching practices for Turkey	158
Table C.24	Multilevel multinomial regression analysis for participation in professional learning communities for Australia	158
Table C.25	Multilevel multinomial regression analysis for participation in professional learning communities for Austria	159
Table C.26	Multilevel multinomial regression analysis for participation in professional learning communities for Belgium (Flemish community)	159
Table C.27	Multilevel multinomial regression analysis for participation in professional learning communities for Brazil	160
Table C.28	Multilevel multinomial regression analysis for participation in professional learning communities for Bulgaria	160
Table C.29	Multilevel multinomial regression analysis for participation in professional learning communities for Denmark	161
Table C.30	Multilevel multinomial regression analysis for participation in professional learning communities for Estonia	161
Table C.31	Multilevel multinomial regression analysis for participation in professional learning communities for Hungary	162
Table C.32	Multilevel multinomial regression analysis for participation in professional learning communities for Iceland	162
Table C.33	Multilevel multinomial regression analysis for participation in professional learning communities for Ireland	163
Table C.34	Multilevel multinomial regression analysis for participation in professional learning communities for Italy	163
Table C.35	Multilevel multinomial regression analysis for participation in professional learning communities for Korea	164
Table C.36	Multilevel multinomial regression analysis for participation in professional learning communities for Lithuania	164
Table C.37	Multilevel multinomial regression analysis for participation in professional learning communities for Malaysia	165
Table C.38	Multilevel multinomial regression analysis for participation in professional learning communities for Malta	165
Table C.39	Multilevel multinomial regression analysis for participation in professional learning communities for Mexico	166
Table C.40	Multilevel multinomial regression analysis for participation in professional learning communities for Norway	166
Table C.41	Multilevel multinomial regression analysis for participation in professional learning communities for Poland	167
Table C.42	Multilevel multinomial regression analysis for participation in professional learning communities for Portugal	167

Table C.43	Multilevel multinomial regression analysis for participation in professional learning communities for the Slovak Republic.....	168
Table C.44	Multilevel multinomial regression analysis for participation in professional learning communities for Slovenia.....	168
Table C.45	Multilevel multinomial regression analysis for participation in professional learning communities for Spain.....	169
Table C.46	Multilevel multinomial regression analysis for participation in professional learning communities for Turkey.....	169

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Executive Summary

BACKGROUND

The pressure to increase equity and improve educational outcomes for students is growing around the world. Teaching practices, in contrast to student background variables such as socio-economic status and cultural capital, are factors affecting student learning that are more readily modifiable. Moreover, additional professional practices have received attention, especially those that help transform the school into a professional learning community.

The report uses data from the 2008 OECD Teaching and Learning International Survey (TALIS). TALIS is an international survey focused on the working conditions of teachers and the learning environment in lower secondary schools. It uses self-report questionnaires and representative samples of schools and teachers within schools along with their principal. For the purpose of this report, this rich dataset is used to identify, in each of the 23 participating countries, underlying profiles in teachers' participation in two related areas of teachers' work: (1) classroom teaching practices and (2) participation in professional learning communities.

The report furthermore compares these profiles among countries and relates them to teacher background variables (such as teachers' qualification, gender and age, as well as subject taught), teacher beliefs, school background variables (such as social composition of the student population) and school policies (such as autonomy, management, feedback and appraisal systems).

This report does not evaluate the effectiveness of any teaching practice, nor does it provide data on subjective judgement of practices within countries, but rather aims to enable a more comprehensive understanding of teaching practice and participation in professional learning communities nationally and internationally and thereby provide policy makers and other key stakeholders with relevant information for system monitoring.

CONCEPTUAL FRAMEWORK

The selection of the teacher practices dimensions examined in this report is based on an underlying theoretical framework rooted in past and current theories on teacher practices, both at the classroom level (teaching practices) and the school level (professional learning communities, with professional development and shared practices to improve teaching). At the beginning of the 21st century, socio-constructivist ideas (*i.e.*, examining a learner's psychological processes within the context of the learning process) became prominent in normative approaches to classroom teaching. However, research on school effectiveness suggests that practices based on these theoretical ideas are insufficient to foster student learning. Rather, a combination of clear, well-structured classroom management, supportive, student-oriented classroom climate,

and cognitive activation (e.g. challenging content that promotes deep reflection in the student) has been shown to be effective. The conceptual framework therefore incorporates both socio-constructivist thinking and more classical process-product research, which provides a way to build a bridge between constructivism and direct instruction approaches to education.

Three dimensions of classroom teaching practices are identified in TALIS 2008 that reflect these different approaches: structuring, student orientation and enhanced activities. The structuring dimension describes teaching practices that clarify the structure of a unit or lesson and its ultimate goals, as well as test whether all students have understood the content and performed their tasks. The student orientation dimension concerns group work and adaptive instruction, but also student participation in classroom planning. Both dimensions ask for practices that involve close interaction of the teacher with the whole class, small groups or individual students. This is not the case for the enhanced activities dimension, which instead summarises practices that give students the chance to work independently over a longer period of time.

The concept of professional learning communities is also rooted in socio-constructivist ideas, as well as in models of learning organisations. These models of learning organisations, which originated from the business sector, focus on the interactions between teachers and students and on how these interactions can achieve the goals of fostering students' learning. These interactions are driven by norms, rules and expectations that are, to a large extent, shaped by teachers and school leaders. This requires a system that promotes collaboration and the sharing of values and knowledge, *i.e.* a professional learning community.

Central features of professional learning communities that are measured by TALIS and used in this report are co-operation, holding a shared vision, having a clear focus on learning, practising reflective inquiry and engaging in the de-privatisation of practice. Two types of co-operative hands-on activities were distinguished: the exchange of material, and teaching jointly as a team. While the former can be expected to be common in most countries, teaching jointly as a team requires a higher level of co-ordination and reflection. Holding a shared vision refers to individuals in a group having common goals and a common mind-set to work for them. Having a clear focus on student learning implies regularly evaluating whether this goal has been achieved, which can be realised through the performance of systematic assessments. Reflective inquiry takes place when teachers have detailed and critical discussions about their teaching practices and their experiences in classrooms. Professional learning activities within schools, such as team supervision, are one setting where such reflection can take place. Finally, de-privatisation of practice implies that teachers observe each other, give feedback, and act as mentor, advisor or specialist.

KEY FINDINGS

Classroom teaching practices

Using multilevel latent profile analysis, this report shows that teachers can be separated along their overall frequency of using the three dimensions of teaching practices rather than their specific preference for one dimension or another. In each country, three profiles were detected: one group of teachers reports frequent use of structuring, student orientation and enhanced

activities, while another group reports rarely using any of the three practices and one group falls in between. In all countries, the highest percentage of teachers was found in the profile with the lowest means for all three teaching practice dimensions while the lowest percentage of teachers fell within the profile with the highest means for all three dimensions. Hence, only a minority of teachers constitute the profile that reports a comparatively diverse and frequent use of classroom teaching practices.

At the country level, qualitative differences in the profiles are observed. While in some countries student orientation and enhanced activities are comparatively frequent in all three profiles, we observe a clear focus on structuring in others. This suggests that teaching practices are influenced by pedagogical traditions and national cultures.

The profile that reports the most frequent use of all three dimensions of classroom teaching practices also agrees more with constructivist beliefs about the nature of teaching and learning, holds stronger self-efficacy beliefs, reports a more frequent attendance of professional development activities outside of school, and receives feedback and appraisal more often.

Participation in professional learning communities

With respect to participation in professional learning communities, results were more varied among countries: three or four profiles were identified and differences were both quantitative and qualitative. According to theory, a professional learning community exists only when all five aspects are realised in a school or within a certain group of teachers. Results from the analysis show this is not the case for all teachers. In fact, some of the practices used to measure these five aspects are reported to be used infrequently. Moreover, the differences among the profiles are not only in level, but also in kind.

This report shows that participation in professional learning communities tends to be separated by co-operative practices that reduce autonomy. In most countries, large differences among profiles are found with regard to team teaching, a rather sophisticated form of teacher co-operation. For half of the countries there is also considerable variation in the frequency of observation visits with mutual feedback about instruction. In a number of countries, the profiles are further defined by joint reflection on instruction in the context of school-based professional learning activities such as team supervision.

Profile membership is related to other behaviours, as well. Teachers in profiles with higher means for the indicators of self-reported professional practices engage in more professional development and receive more feedback on their teaching. These findings suggest that in all countries there is a group of teachers who report being very active in improving their own practices through activities inside and outside of school; this group is also more likely to report often using a variety of teaching practices, and they believe in their own efficacy.

KEY POLICY IMPLICATIONS

The analysis results presented above show that considerable variation exist within and between countries in profiles of teaching practices and of participation in professional learning communities. Thus, as expected, patterns of self-reported professional practice seem to be

strongly influenced by the specific interaction between traditions, culture and educational policy in each education system. This variation therefore limits the cross-national comparability of profiles and their correlations with other variables. However, general conclusions and policy implications from this research can be reached.

Classroom teaching practices

High-quality instruction is often defined as the use of a variety of classroom teaching practices, allowing for both teacher-directed and self-regulated learning. For educational policy and teacher education, the results support calls for a good balance among the three dimensions of classroom teaching practices: (a) enhanced activities including challenging tasks and content, (b) student-oriented, supportive practices and (c) teacher-directed practices that provide structure and clarity.

Moreover, the profiles with the highest means also reported higher self-efficacy, reported receiving more feedback and appraisal on their instruction, and reported being more involved in professional development activities outside of schools. Thus, the conception of instructional quality as diversity of practices also reflects teachers' self-perception.

Participation in professional learning communities

This report shows that practices that help to realise these features within a school exist across different education systems. In many countries, developing a shared vision and a focus on student learning, but also the exchange of materials, as a fairly basic form of co-operation among staff is similarly common in most profiles. However, practices involving a reduction of autonomy are more difficult (less common) than a simple exchange of materials or co-ordination in the preparation of instruction.

Moreover, empirical support for the value of de-privatising practice comes from the finding that teachers who report being involved in such activities regularly also have higher self-efficacy.

In conclusion, under the premise that professional practices based on socio-constructivist theories examined by TALIS are considered innovative and beneficial for student learning and non-cognitive outcomes, the results suggest that the main driver for advancement is developing a large repertoire of classroom teaching practices as well as taking collective responsibility and working co-operatively to improve instruction. Teachers who are less involved in such activities should especially be the focus of policy and on-site intervention.

CHAPTER 1

Introduction

This chapter introduces the premises and vocabulary needed to understand and interpret the report. It sets forth what the TALIS 2008 has ascertained about teaching practices and teachers' participation in professional learning communities. Chapter 1 also states what the TALIS study was unable to measure; for example, the cause-and-effect relationship between teachers' level of motivation and their participation in extracurricular learning activities. Chapter 1 indicates that country-by-country profiles will further develop the TALIS findings.

RATIONALE AND AIMS OF THE REPORT

Teachers and teaching have become an important focus of national and local policy. All around the world, reforms and actions aim to promote high-quality teaching in classrooms and professional collaboration at the school level. In order to tailor policies and interventions to the needs of different stakeholders and to improve the learning conditions of students, it is important to understand what is happening in schools and classrooms in different education systems.

This report aims to contribute to this knowledge base. Using data from the 2008 OECD Teaching and Learning International Survey (TALIS), it sets out to identify and harmonise profiles with regard to two related areas of professional teacher activities: ***classroom teaching practices and participation in professional learning communities***.

For each of these areas, the report identifies and describes typical profiles of practices within countries using a statistical technique that allows for the identification of “latent” (unobservable) profiles based on self-reports obtained from teachers. The report furthermore compares these latent profiles among countries and relates them to teacher background variables (such as qualification, subject taught, gender and age), to teacher beliefs, to the school background (such as social composition of the student population) and to school policies (such as autonomy, management, feedback and appraisal).

Results will inform policy makers and key stakeholders on professional practices, both separately for each country and in comparison across countries, and thereby provide relevant information for system monitoring. Analysing relationships of the profiles with teacher-, school- and system-level background variables and processes will also inform comparative research on teachers and teaching. The results will enable a more comprehensive understanding of professional practices.

OUTLINE OF THE REPORT

While stakeholders across countries agree on the aim of promoting high-quality teaching, they may have different conceptions of what characterises good practice. Moreover, teaching and learning can be regarded a cultural activity. What works in one system might not be easily transferred to others (Bempechat, Jimenez and Boulay, 2002; Bennett, 1987; Berliner and Biddle, 1995), and reforms in different countries sometimes move in opposite directions (Döbert, Klieme and Sroka, 2004). Therefore, the report starts by describing the theoretical framework for the selection of the practices examined. This allows the reader to better contextualise and interpret the results.

Chapter 2 provides substantive theory on professional practices, both at the classroom level (teaching practices) and the school level (professional learning communities, with professional development and shared practices to improve teaching). Here, two perspectives are taken: that of evidence-based education and of a more normative theoretical position. The former refers to international research in educational and teacher effectiveness, and the latter to philosophies of education, e.g. constructivism (visions of education), reform pedagogy (giving schools greater autonomy) and the concept of professional learning communities.

While Chapter 2 delineates a broad array of concepts from school research and pedagogy, Chapter 3 relates the discussion directly to the TALIS 2008 study and identifies the issues

discussed in the literature review based on the study's design, instrumentation and data structure. TALIS provides multilevel data on different areas of professional activities, as well as a broad set of explanatory variables on both the teacher and the school level. Nevertheless, TALIS does not evaluate the effectiveness of any professional practice, nor does it provide data on subjective judgement of practices within countries. These limitations are considered in Chapter 3, which introduces the TALIS design and sample as well as the statistical approaches used in the report. A detailed presentation of the statistical model and software considerations is provided in Annex A.

Chapter 4 provides empirical results on profiles of teaching practices and on teacher- and school-level predictors of profile membership, while Chapter 5 presents similar results for professional learning communities. In conclusion, Chapter 6 interprets the findings. Different perspectives, as outlined in Chapter 2, are applied.

BACKGROUND AND MAIN FINDINGS

Classroom teaching practices are at the core of a teacher's work. At the beginning of the 21st century, teaching practices based on socio-constructivist theories became popular in educational philosophy (e.g. Brown, 1994; Deci and Ryan, 1985; Evensen and Hmelo, 2000; Lee and Songer, 2003; Mayer, 2004; Scardamalia and Bereiter, 2006). These theories are, to a certain degree, supported by empirical research: instructional methods based on socio-constructivist ideas (i.e., examining a learner's psychological processes within the context of the learning process) – for example, student-oriented practices and cognitive activation – are associated with student motivation and conceptual understanding. However, empirical research also suggests that these factors are not sufficient to foster learning. Cognitive outcomes may also require clear structuring of lessons and good classroom management (e.g. Baumert *et al.*, 2009; Creemers and Kyriakides, 2008; Klieme, Pauli, and Reusser, 2009; Lipowsky *et al.*, 2009; Pianta and Hamre, 2001). Therefore, three dimensions of classroom teaching practices are identified in TALIS 2008 that reflect all of these aspects: structuring, student orientation and enhanced activities (OECD, 2009; OECD 2010a).

Using multilevel latent profile analysis, this report shows that ***teachers can be separated along their overall frequency of using the three dimensions of classroom teaching practices rather than their specific preference for one dimension or another.*** Across countries that participated in TALIS 2008, three parallel latent profiles are found. Hence, in each country, one group of teachers reports frequent use of structuring, student orientation and enhanced activities, while another group reports rarely using any of the three practices and one group falls in between. At the country level, on the other hand, qualitative differences are observed. While in some countries student orientation and enhanced activities are comparatively frequent in all three latent profiles, we observe a clear focus on structuring in other countries. This suggests that classroom teaching practices are influenced by pedagogical traditions and national cultures.

Socio-constructivist ideas have also led to the development of new forms of teachers' professional learning. Professional learning communities involve teachers in a number of co-operative activities and in reflective inquiry, help teachers to develop a shared vision and to focus on student learning, and promote de-privatisation of teaching (sharing ideas through

peer coaching) (Hord, 2004; Kruse, Louis and Bryk, 1995). Empirical studies suggest that such practices may help improve instruction and enhance learning (Bolam *et al.*, 2005; Lee and Smith, 1996; Louis and Marks, 1998; Supovitz, 2002).

This report also shows that ***participation in professional learning communities tends to be separated by co-operative practices that reduce autonomy***. In most countries, large differences among profiles are found with regard to team teaching. For half of these countries there is also considerable variation in the frequency of observation visits with mutual feedback about instruction. In a number of countries, the profiles are further defined by joint reflection on instruction in the context of school-based professional learning activities such as team supervision. Only small differences among profiles are found for the other items. There is one exception, however: in the Korea, profiles are separated mainly by the reported frequency of attending staff meetings in order to discuss the vision and the mission of the school. Thus, as with the profiles for classroom teaching practices, the profiles for participation in professional learning communities vary considerably among countries, suggesting an influence of pedagogical traditions and national cultures.

Profile membership is related to other professional behaviours, as well. ***Teachers in profiles with higher means for the indicators of self-reported professional practices engage in more professional development and receive more feedback on their teaching***. These findings suggest that in all countries there is a group of teachers who report being very active in improving their own practices through activities inside and outside of school; this group is also more likely to report often using a variety of teaching practices, and they believe in their own efficacy. Based on a cross-sectional survey it is not possible to determine whether professional development and feedback help teachers develop a wider repertoire of practices or whether teachers who report greater use of professional practices are more motivated to get involved in professional learning. Similarly, it remains open whether participation in professional learning communities helps teachers develop high self-efficacy, or whether high self-efficacy helps use a diverse set of professional practices. The positive associations suggest at a minimum that it may be worthwhile to examine these links in more detail to study whether existing programmes are effective and reach teachers most in need of support.

The results further show ***constructivist beliefs about the nature of teaching and learning to be associated with membership in profiles for teaching practices***. The higher the agreement with constructivist beliefs, the more likely a teacher is to be in a profile with higher means for the three dimensions of classroom teaching practices. No association is observed, however, with participation in professional learning communities. Beliefs are considered to guide the professional practices of teachers (e.g. Leuchter, Pauli, Reusser and Lipowsky, 2006). It is likely that the relation between both aspects is reciprocal. The present report confirms this association in a variety of education systems. This suggests including beliefs in actions aimed at improving teaching practices.

School characteristics also play a role in teachers' professional practices: ***In some countries school size, teachers' average working hours and parents' socio-economic background predict the school average membership for both profiles of professional practices***. These associations vary considerably, however, among countries.

Readers' guide

Data underlying the figures

The data referred to in Chapters 4 and 5 of this report are presented in Annexes B, and C.

Reporting of teacher and school data

The report uses “teachers” and “principals” as shorthand for the TALIS target population. In practice, this refers to a representative sample of teachers of lower secondary education [level 2 of the International Standard Classification of Education (ISCED-97)] and the principals of their schools.

Abbreviations used in this report

ISCED International Standard Classification of Education

AIC Akaike information criterion

BIC Bayesian information criterion

Classification of levels of education

The classification of the levels of education is based on the revised International Standard Classification of Education (ISCED-97). ISCED is an instrument for compiling statistics on education internationally and distinguishes among the following levels of education:

- Pre-primary education (ISCED level 0).
- Primary education (ISCED level 1).
- Lower secondary education (ISCED level 2).
- Upper secondary education (ISCED level 3).
- Post-secondary non-tertiary level of education (ISCED level 4).
- Tertiary-type A education (ISCED level 5A).
- Tertiary-type B education (ISCED level 5B).
- Advanced Research Qualifications (ISCED level 6).

Rounding of figures

Because of rounding, some figures in tables might not add up exactly to the totals. Totals, differences and averages are always calculated on the basis of exact numbers and are rounded only after calculation. When standard errors in this publication have been rounded to one or two decimal places and the value 0.0 or 0.00 is shown, this does not imply that the standard error is 0, but that it is smaller than 0.05 or 0.005 respectively.

Territorial entities

In the entire document, the Flemish Community of Belgium is referred to as “Belgium (Fl.)”.

Further documentation

For further information on the instruments and the methods used in TALIS 2008 see the initial report, *Creating Effective Teaching and Learning Environments: First Results from TALIS* (OECD, 2009); the *TALIS Technical Report* (OECD, 2010a) and the TALIS Web site (www.oecd.org/edu/talis).

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