



Department
for Education

TALIS Video Study: International Summary

Research summary

November 2020

**Edited by Anna Riggall, Naomi Sani, and
Elaine McCann: Education Development
Trust**



Government
Social Research

Acknowledgments

The Teaching and Learning International Survey (TALIS) Video Study was led and managed by Education Development Trust in partnership with the Department of Education, University of Oxford, in England. The England Team consisted of Elaine McCann, TALIS Video Study National Project Manager, Naomi Sani, Education Development Trust Mathematics Expert, Anna Riggall, Education Development Trust Head of Research and TALIS Video Study Project Director, Jenni Ingram, University of Oxford Observation Expert, and Ariel Lindorff, University of Oxford Master Rater. Our thanks also extend to the team of Education Development Trust school recruiters, data collectors, videographers and data entry personnel, the team of University of Oxford video and artefact raters and analysts, and to Lowri Buckley, Data Collection Co-ordinator.

We would particularly like to thank the many mathematics teachers and their students who participated in the TALIS Video Study in England. They opened up their classrooms to us, enabling the better understanding of the nature of, and variation within, the teaching of mathematics in secondary schools.

The TALIS Video Study is an international study involving eight countries and economies working together. We are grateful to all the members of the TALIS Video Study International Consortium whose hard work and support led to the successful design and implementation of the study. We would also like to thank colleagues at the Organisation for Economic Co-operation and Development (OECD) for their constant support.

Disclaimer

The TALIS Video Study is an OECD project. The development of the Study's instrumentation and data analyses and drafting of international reports were contracted by the OECD to RAND, Educational Testing Service (ETS) and Leibniz Institute for Research and information in Education (DIPF). The authors of this work are solely responsible for its content. The opinions expressed and arguments employed in this work do not necessarily represent the official views of the OECD or its member countries.



Contents

Acknowledgments	2
Disclaimer	2
List of figures	4
The TALIS Video Study	5
Documenting what has been learned from the TALIS Video Study	6
A suite of reports	6
Developing a deeper understanding of teaching quality	8
What did the study involve?	8
What was the TALIS Video Study looking for?	10
There are challenges when seeking replication of study design in multiple countries	11
What are the lessons from the TALIS Video Study?	13
Classroom management	13
Social-emotional support	14
Instruction	15
There is excitement about this innovative approach, so what happens next?	19
References	20

List of figures

Figure 1: Features of the TALIS Video Study methodology 10

Figure 2: Summary of findings from classroom management domain across all countries
..... 14

Figure 3: Summary of findings relating to the domain of social-emotional support 15

Figure 4: Summary of instruction domain findings 17

Figure 5: Instruction and technology 17

Figure 6: Instruction and opportunity to learn..... 18

The TALIS Video Study

The Teaching and Learning International Survey (TALIS) Video Study, run by the Organisation for Economic Co-operation and Development (OECD), provides new information on the teaching of mathematics in secondary schools across the eight participating countries/economies: Biobío, Metropolitana and Valparaíso (Chile), Colombia, England (UK), Germany¹, Kumagaya, Shizuoka and Toda (Japan), Madrid (Spain), Mexico, and Shanghai (China). Later in the report these regions are referred to by country name only. Data collection was conducted in England between October 2017 and October 2018.

The TALIS Video Study serves as a unique opportunity for policymakers, researchers and teachers themselves to understand teaching within different countries and compare patterns between them. The Study is able to describe classroom teaching in considerable detail across a range of settings thanks to its design and methodology, providing a rich learning opportunity for the education community at scale. – *OECD, 2020a:9*

The TALIS Video Study aimed to deepen understanding about the factors that lead to better student outcomes; identify what works in the classroom; get a more detailed view of what is taking place in classrooms and see how these things differ across geographies and jurisdictions. The study was designed to:

- Understand which aspects of teaching are related to student learning and student non-cognitive outcomes such as students' self-efficacy and interest in mathematics
- Observe and document how the teachers from participating countries and economies teach
- Explore how various teaching practices are inter-related, and how contextual aspects of teaching are related to the student and teacher characteristics.

Importantly, the study is not a ranking exercise of countries or their teachers and it is not a comprehensive study of all aspects of teaching. It is a new and innovative attempt to capture “the richness, the complexity and the variety of teaching around the world to better understand teaching and learning”.²

¹ In Germany this constituted a convenience sample of volunteer schools.

² OECD (2020a)

Documenting what has been learned from the TALIS Video Study

The OECD is releasing data from the TALIS Video Study as part of two international reports. One is a policy-focused report³ documenting the findings from all eight participating countries entitled [*Global Teaching InSights A Video Study of Teaching*](#)⁴. The other is a [technical report](#) detailing how the study was undertaken.⁵

There are also three DfE published reports.

The first report complements the OECD reports by providing a more focused and detailed analysis of the results in England and analysing differences within England across teachers and classes.⁶

The second report documents the findings from a qualitative analysis of the videos, focusing on interesting practices measured by the study in England.⁷

The third report is a technical report detailing how the study was conducted within England following the study protocol as set by the International Study Consortium⁸ and noting the approved deviations.⁹

A suite of reports

All reports are written with the intention of reaching a wide audience including policy makers, schools and practitioners. A suite of research summaries based on the full reports have been produced specifically with schools and practitioners in mind. These reports contain the same material condensed and packaged for faster reading.

³ OECD (2020a)

⁴ Also referred to as the TALIS Video Study

⁵ OECD (2020b)

⁶ Ingram et al. (2020)

⁷ Ingram & Gorgen (2020)

⁸ The consortium managed the TALIS Video Study on behalf of the OECD.

⁹ McCann et al. (2020)

Table 1: Summary of available reports

Report	Publisher
Global Teaching Insights: Policy Report	OECD
Global Teaching Insights: Technical Report	OECD
TALIS Video Study: National Report	DfE
TALIS Video Study: Technical Report	DfE
TALIS Video Study: Case studies of mathematics teaching practices	DfE
TALIS Video Study: National Summary Report	DfE
TALIS Video Study: International Summary Report	DfE
TALIS Video Study and Professional Development	DfE

Source: Education Development Trust

Developing a deeper understanding of teaching quality

The TALIS Video Study was a substantial undertaking involving 533 schools, 700 teachers, and around 17,500 students across eight countries.

The Study offers a window into the classrooms of Biobío, Metropolitana and Valparaíso (Chile), Colombia, England (UK), Germany, Kumagaya, Shizuoka and Toda (Japan), Madrid (Spain), Mexico and Shanghai (China). These eight countries/economies feature a rich variety of classroom settings, pedagogical traditions, system-level policies and student achievement levels that contribute to the Study helping to build a deeper understanding of teaching at a global level. – *OECD, 2020a:7*

The Study was designed to focus on teaching quality. As the OECD report states:

Understanding the relationship between teaching and learning can provide insights to help raise student outcomes and to promote high quality, impactful teaching practices that ensure every child has the learning tools needed to succeed in school and life. – *OECD, 2020a:3*

The study extends and deepens earlier research on the topic of teaching quality.

[It] aims to move the education community towards a more detailed and robust understanding of teaching and learning. The Study's overarching goal and rationale is to trial new methodologies to deepen understanding of teaching and learning at an international scale. – *OECD, 2020a:7*

What did the study involve?

The TALIS Video Study focused on the teaching and learning of a single mathematics topic, quadratic equations. The focus on one common topic was important; it enabled the collection of comparable data across countries. The focal topic had to be one that was taught in all participating countries and economies and that was taught to students of a similar age. The study used new measurement tools specifically designed for the analysis of videos of mathematics teaching and the lesson artefacts accompanying that teaching. The study design was longitudinal, capturing the outcome measures before and after a sequence of lessons that included quadratic equations. The procedures for data

collection and analysis of videos and artefacts were standardised across the participating countries and economies.

The TALIS Video Study required two lessons from the quadratic equations unit of work to be filmed. One of the lessons occurred during the first half of the unit and the second lesson occurred later in the unit.

The TALIS Video Study also required all participating teachers and students to complete two questionnaires.

Students took a pre-test focused on their general mathematics knowledge two weeks before the start of the unit of work that included quadratic equations. They then took a post-test within two weeks of the conclusion of the unit of work. The post-test had a narrower focus than the pre-test in order to provide more precise measures of students' knowledge and understanding of quadratic equations.

In addition to the tests, questionnaires, and the videos of lessons, artefacts from those lessons and the lessons that followed were also collected. These artefacts included lesson plans, handouts and worksheets, textbook pages, visual materials such as the projected slides shown, and/or any homework set, where they were available.

The videos of teaching were analysed by a team of raters who had been trained to look for common aspects of teaching – so they were all looking for the same behaviours and practices no matter which country the videos were from. Their ratings (of the video and artefact data within the study) were measured on a scale of 1 to 4 (or 1 to 3 for artefacts), where a higher rating represented a higher quality or higher frequency of particular behaviours. A framework was designed specifically for the study to guide this. It focused on practices known from previous research to be related to student achievement as well as practices that were highly valued by the Mathematics Experts in each of the participating countries.

After the ratings were complete, analyses were possible. These analyses explored the variation, frequency, and prevalence of teaching practices and the relationships between teaching practices, student outcomes and teachers' and students' perceptions of learning quadratic equations.

The features of the Study's methodology are presented in Figure 1 below.

Figure 1: Features of the TALIS Video Study methodology



Source: OECD, 2020a

Whilst there have been other studies that have used video to study teaching before, the TALIS Video Study is among the largest, with high numbers of teachers and countries participating. It is also among the more elaborate studies of this nature in that it includes common evaluation methods; a common focal topic; and collection of teaching materials, student questionnaires, teacher questionnaires, teacher logs, and student tests. Most other video studies have some but not all of these components.

What was the TALIS Video Study looking for?

During the early phases of the project the International Study Consortium developed a conceptualisation of teaching quality which underpinned the development of the common data collection tools. This integrated three things:

- Country conceptualisations of teaching quality
- TALIS and Programme for International Student Assessment (PISA) frameworks
- A review of international literature on teaching.

The resulting conceptualisation of teaching led to the development of a framework which essentially set out what was being looked for in the videos. It had three domains of teaching (categories of teaching practice) including:

- *classroom management* (routine, monitoring, disruptions, time on task, activity structure and frequency, time of lesson)
- *social-emotional support* (respect, encouragement and warmth, requests for public sharing and persistence)
- *instruction*, which had subdomains including:
 - *discourse* (nature of discourse, questioning, explanations, discussion opportunities)
 - *quality of subject matter* (explicit connections, explicit patterns and generalisations, explicit learning goals, accuracy, real-world connections, connecting mathematical topics, mathematical summary, types of representations, organisation of procedural instruction)
 - *student cognitive engagement* (engagement in cognitively demanding subject matter, multiple approaches to/perspectives on reasoning, understanding of subject matter procedures and processes, metacognition, repetitive use opportunities, technology for understanding, classroom technology, student technology, software use for learning)
 - *assessment of and responses to student understanding* (eliciting student thinking, teacher feedback, aligning instruction to present student thinking).

Greater detail about how the conceptualisation of teaching was used to underpin the tools for data collection and the precise meaning of terms can be found in the [OECD policy report](#) and the [OECD technical report](#).

In the analysis, the teaching practices or behaviours (known in the language of the Study as components and indicators) were rated for quality or frequency in the videos and in the classroom artefacts. These data were then used along with the survey and test data to look for patterns and relationships that might reveal more about how teaching practice was associated with a range of other factors.

There are challenges when seeking replication of study design in multiple countries

Some of the features of the methodology (for example, the common focal topic and the longitudinal design) act to increase robustness or complexity of study and improve the

quality of the data to allow for international and comparative analysis. They also introduce limitations.

In England, the pre-post or longitudinal element was actually short (often only two weeks). This means there was actually very little time for learning or change in outcomes to happen. The reasons for the short time between pre- and post- data collection was dictated by the way the topic is taught in England. These differences are interesting in and of themselves.

The focal topic was essential to make the study work internationally but again imposes limitations on the learning that is possible more generally beyond this topic. There are also important differences to the way even a common focal topic is dealt with in different countries. Not all aspects of quadratic equations considered in the study were part of England's foundation tier curriculum and in England quadratic equations and quadratic functions are often taught within the same topic, whereas they are separated in other countries.

Despite best intentions it was not possible to follow an identical process in each country, for good reason. For example, the protocols for sampling and recruiting schools could not be implemented *by the book* everywhere. The length of time between pre- and post-data collection matched what naturally occurred in each jurisdiction but varied between countries. All these factors affect how the findings should be interpreted.

What are the lessons from the TALIS Video Study?

This section of the report summarises the key findings in relation to each of the domains from the conceptualisation of teaching.

Classroom management

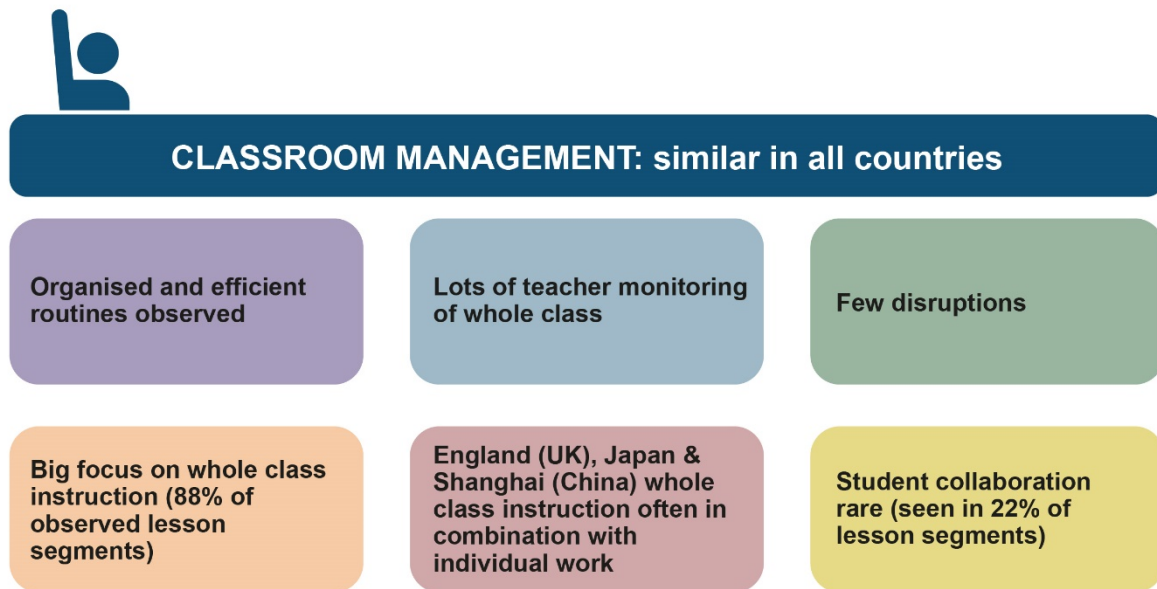
There was remarkable similarity across all countries when it came to classroom management. The approach to classroom management enabled:

- most time to be spent on learning
- organised and efficient routines
- lots of teacher monitoring of the whole class
- few disruptions

Whole-class instruction was observed in 88% of lesson segments¹⁰. The use of whole-class instruction often happened in combination with individual work in England (UK), Japan and Shanghai (China). Student collaboration was used in less than 22% of lesson segments.

¹⁰ A segment was a block of time with each video divided into a series of segments. Segmenting video in this way is often used to aid analysis of video data.

Figure 2: Summary of findings from classroom management domain across all countries



Source: OECD, 2020a

Students and teachers were asked about their perceptions of the teaching during the topic. The analysis shows they:

[...] generally reported high levels of teacher awareness, efficient handling of disruptions and a high disciplinary climate. However, students in most countries/economies perceived more noise and disorder than their teacher. – *OECD, 2020a*

Social-emotional support

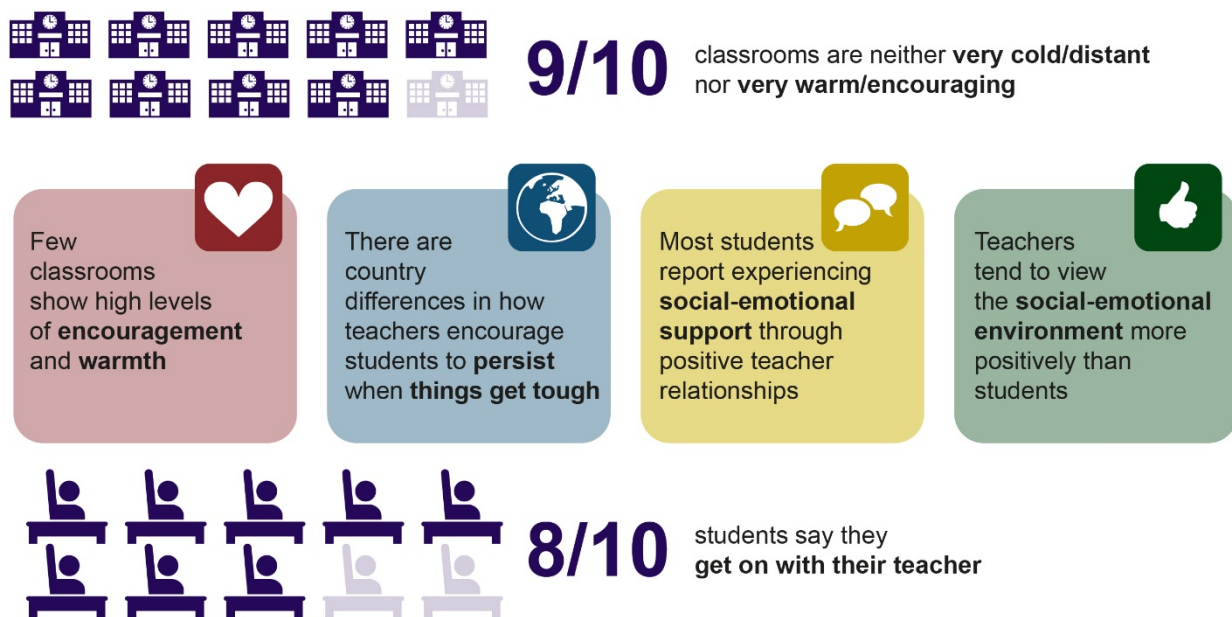
The international report states:

Social-emotional support, the practices used by teachers and students to develop and maintain learning environments marked by trust, a sense of community, and feelings of belonging (among others), has an impact on student cognitive and non-cognitive outcomes. – *OECD, 2020a (quoting Pianta, Hamre and Allen, 2012; Wang and Degol, 2016)*

The act of observing social-emotional support in international classrooms is new and innovative and it is not easy. Observers looked for certain behaviours that suggest encouragement, respect and warmth – for example, laughter, smiling, manners appropriate to local culture, use of appropriate names – these things all counted.

Overall, across the eight countries, classrooms were deemed to be “moderately” socially and emotionally supportive – neither very warm nor very cold. Most were respectful and it was very rare to see threats or degrading behaviours.

Figure 3: Summary of findings relating to the domain of social-emotional support



Source: OECD, 2020a

Analysis of classrooms in England alone suggested high levels of social-emotional support (see the TALIS Video Study National Report and the accompanying Summary Report).

Instruction

The instruction domain is complex and multi-faceted. It can be broken into practices related to:

- *subject matter* (for example, clarity of goals, the use of patterns and generalisations, connections, and types of mathematical representations)
- the depth of students' *cognitive engagement* (for example, the level of cognitive demand, understanding of rationales, opportunities to practice, metacognition)

- teachers' *assessments of and responses to students' understandings* (for example, eliciting of student thinking, providing feedback to students on their thinking, and aligning instruction to that thinking)
- students' participation in the classroom's *discourse* (for example, who speaks, the nature of questions, the type of explanations).

For all countries, the overall rating for the quality of instruction was “low”. The range of mean scores from 1.74 to 2.24 (on a four-point scale) suggests there is room for improvement in some classrooms in *every* country or economy. However, England's mean score (2.23) was toward the upper end of these scores (Japan (2.24), England (2.23), Germany (2.20), China (2.15), Spain (1.96), Mexico (1.92), Chile (1.85) and Colombia (1.74)).

In England, Chile, Germany, Spain, and China the overall quality of instruction was roughly similar across classrooms. In contrast, Japan, Mexico, and Colombia appear to have larger differences across classrooms in the quality of instruction within these countries/economies. In China's classrooms, teachers and students engaged in similar practices at a similar level of quality no matter the classroom in which they participated.

In England, many classrooms were quite alike on *assessment* and *discourse* but differed considerably on *cognitive engagement* and quality of *subject matter*. In Colombia and Germany, classrooms were alike on quality of *subject matter* and *discourse* respectively but differed on other practices. The lack of clear patterns suggests significant “within-country” variation.

Within the practices that compose the overall instructional domain, the lowest-rated practices – in *every* country/economy – were quality of *subject matter* and *cognitive engagement*. But all aspects of the instructional domain were below the social-emotional support scores and well below those for classroom management.

Figure 4: Summary of instruction domain findings

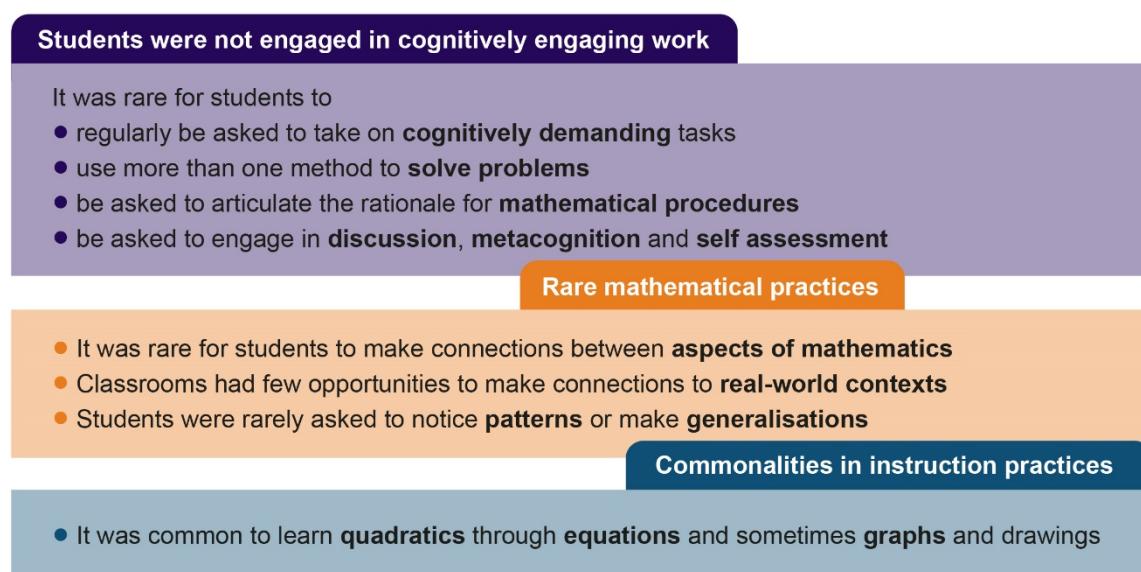


Figure 5: Instruction and technology

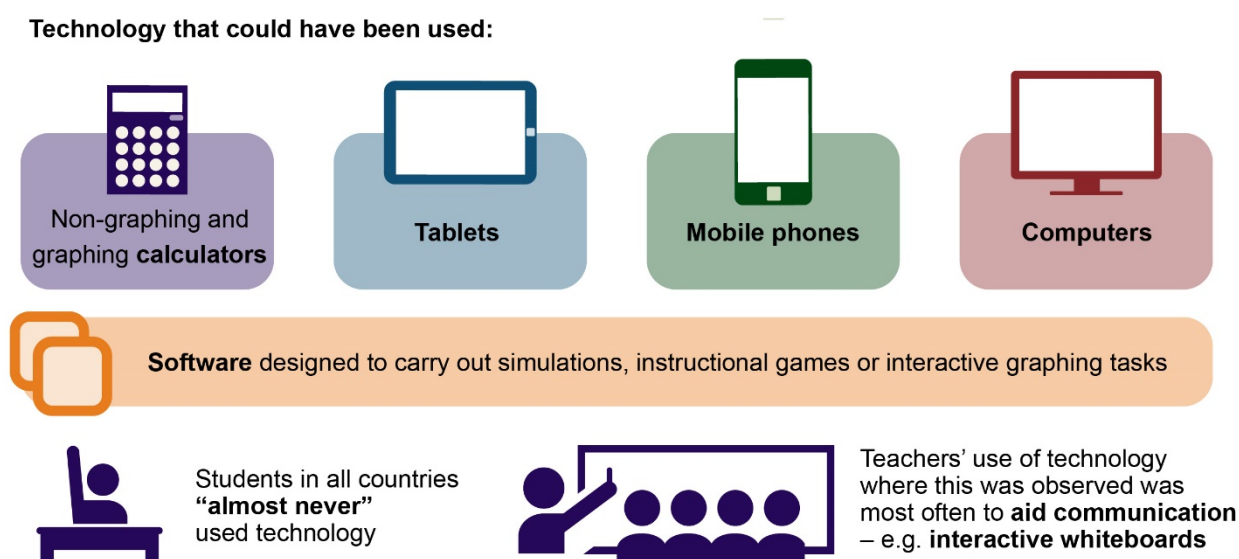
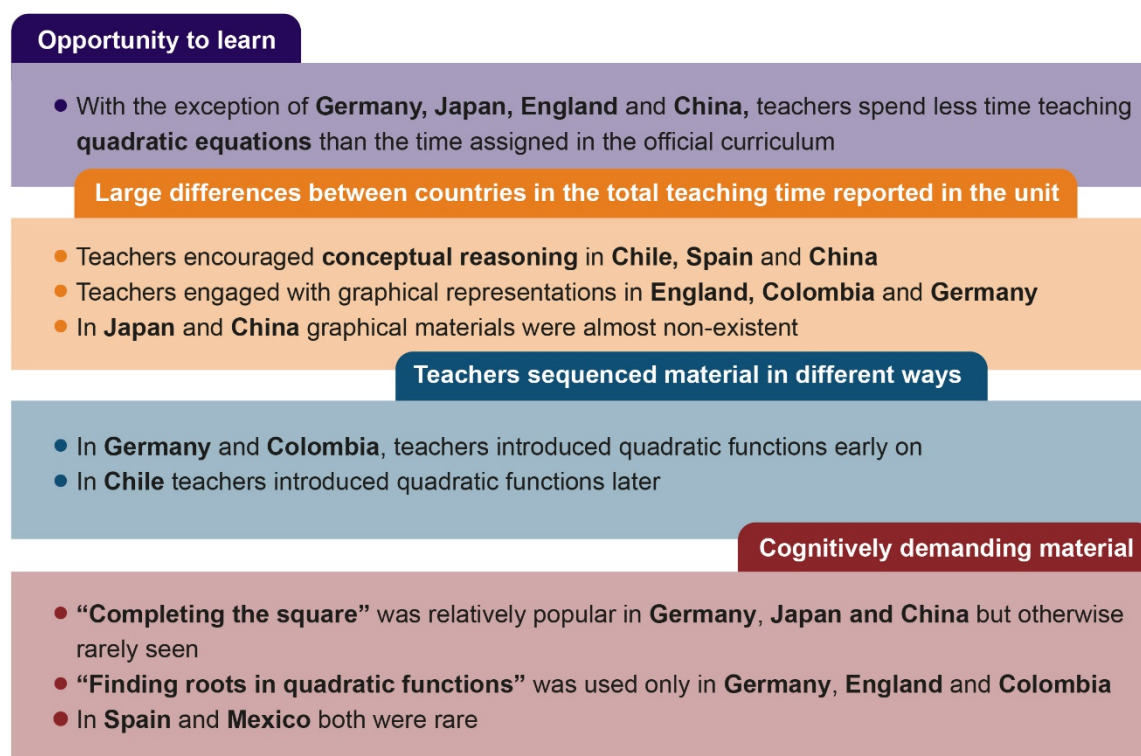


Figure 6: Instruction and opportunity to learn¹¹



¹¹ England has been added to the list of countries under 'opportunity to learn' as a result of the England analysis.

There is excitement about this innovative approach, so what happens next?

There is a great deal of information in the reports published as a result of the TALIS Video Study. So, what next? What can be done with all of this information?

The final chapters of the [OECD International Policy Report](#) conclude with a strong message about how the TALIS Video Study lays foundations for a new future. They call for:

- More integration of teachers into the process of studying teaching and learning – the TALIS Video Study supports and provokes reflection and discussion and the debate needs to find more “ways to pool expertise from a range of sources, backgrounds and contexts in order to foster a global dialogue centred on professional growth.” – *OECD, 2020a*
- New ways to build a range of communities of practice and to use the technology at our disposal to support a global dialogue about teaching and learning.

“A global teaching community could help to establish a common deposit of professional knowledge that stretches across the world, like that of other professions such as economics, medicine or architecture.” – *OECD, 2020a*

- The development of a global teaching language to overcome barriers to teacher collaboration:

“The TALIS Video Study shows that a shared language and a common framework around teaching can be established across cultures. The fact that a large group of observers from different countries and a diverse set of backgrounds could be collectively trained to accurately unpack and analyse teaching provides promising evidence that dialogue around teaching can be robust and evidence-based across countries and cultures.” – *OECD, 2020a*

It is important to note also that for the OECD there is a key “sister” project of the TALIS Video Study called *Global Teaching InSights*. Video examples have been included in this resource only with participants’ consent.

Global Teaching InSights will be a digital platform that connects teachers, educators, and researchers around the world. It will use video examples, drawn from the TALIS Video Study, to illustrate teaching practices in a tangible and authentic way. It will hence offer stakeholders common video definitions of each practice, around which dialogue, learning and collaboration can occur. – *OECD, 2020a*

References

- Ingram, J., Lindorff, A., McCann, E., Riggall, A., & Sani, N. (2020). *TALIS Video Study national report*. London, United Kingdom: DfE.
- McCann, E., Riggall, A., Ingram, J., & Lindorff, A. (2020). *TALIS Video Study: Technical report*. London, United Kingdom: DfE.
- Ingram, J. & Gorgen, K. (2020). *TALIS Video Study case studies*. London, United Kingdom: DfE.
- OECD (2020a). *Global Teaching InSights A Video Study of Teaching*. Paris: OECD
- OECD (2020b). *Global Teaching InSights: Technical Report*. Paris: OECD



Department
for Education

© Department for Education 2020

Reference: DFE-RR1069

ISBN: 978-1-83870-211-3

For any enquiries regarding this publication, contact us at: alice.gallimore-roberts@education.gov.uk or www.education.gov.uk/contactus

This document is available for download at www.gov.uk/government/publications