



Department  
for Education

# **International early learning and child well-being study (IELS) in England**

**Introduction to the research**

**August 2018**



**Social Science in Government**

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# Executive summary

## Objectives

The [International Early Learning and Child Well-being Study \(IELS\)](#) is a new study by the Organisation for Economic Co-operation and Development (OECD) to understand children's abilities at age five. The main objectives of the study are to:

- Assess children's non-cognitive as well as cognitive skills in the following domains:
  - Social and emotional skills
  - Self-regulation
  - Emerging literacy
  - Emerging numeracy
- Analyse the influence on children's learning and development of:
  - Early childhood education and care (ECEC) experiences
  - Home learning environment
  - Individual characteristics

IELS is being developed with input from a range of experts in international research and early childhood education and care. The first round of IELS, like any major new international study, is an opportunity to develop and test the methodology of the study. If the first round of IELS is successful in achieving the main research objectives, OECD is expected to repeat IELS in future years with a larger number of countries.

## England's participation

England is participating in the current (first) wave of IELS. The Department for Education (DfE) expects IELS to provide valuable and internationally comparable evidence on children's early learning and development, which we know is important for educational attainment throughout childhood and later life.

Ensuring the wellbeing of the children who participate in IELS is of the utmost importance and will be done by ensuring that the activities they are asked to take part in are:

- age-appropriate
- voluntary
- administered by fully trained professionals who will liaise with staff in the child's school

- processed according to UK data protection principles and regulations

## Methodology

The data collection methodology uses tablet-based direct assessments of the children and questionnaires to collect information from each sampled child's parent(s) or carer(s), and the teachers or staff members who know the child best. Both the tablet-based assessments and the questionnaires cover the four domains of emerging literacy, emerging numeracy, self-regulation and social and emotional skills. The questionnaires also collect information on the children's individual characteristics, home environment and background, and early education experiences. The information gained directly from the tablet-based assessments will be analysed in conjunction with the responses of the child's parents/carers and teachers.

The children will complete the tablet-based assessments overseen one-to-one by experienced study administrators who are experienced current or former teachers with Disclosure and Barring Service (DBS) background checks, who are briefed on child protection and working with young children. The study administrators are trained to avoid placing pressure on children by creating a relaxed atmosphere, engaging each child's interest in the tasks, and giving them encouragement. The tablet-based assessments use interactive stories and games, introduced by two animated child characters who appear throughout, and make use of pre-recorded audio narration and instructions. All tasks are presented aurally and none of the tasks involve either reading printed text or writing. (The emerging literacy tasks are based on listening comprehension, vocabulary and phonological awareness.)

## Sampling

In England, the target population of children comprises all children aged five years old who attend an officially registered school that provides education and care for children in this age cohort. This includes all maintained schools, academies and independent schools which admit five year old children. In England the main study will take place in autumn term when most five year olds will be in year 1, although a small proportion will be in reception.

An unbiased sample of schools, and children within schools, will be drawn for IELS using a random probability sampling methodology. The field trial in 2017 sampled 477 children from a total of 32 schools, while the main stage in 2018 will sample approximately 3,000 children from a total of 202 schools. On average, 15 children will be sampled in each participating school.

## Field trial operational findings

The IELS field trial in England took place between 13 November and 15 December 2017. The purpose of the field trial was to pilot the study on a small scale in order to assess the design and operations of the study, and to learn from the experience in order to optimise the instruments and procedures for the main study.

The field trial was successful in achieving the minimum targets stipulated by OECD of 30 schools and 450 children in England. In total, 32 schools and 453 children took part.

The participation rates for children and teachers were particularly strong and the participation rate of parents/carers was substantially higher than achieved in previous international studies in England. In total:

- 96% of sampled children participated, of which 95% completed all four domain assessments
- 93% of teachers completed questionnaires about the sampled children
- 58% of parents/carers of participating children completed questionnaires

The field trial demonstrated that the design of the study is successful in ensuring children's wellbeing, in particular:

- The delivery of the direct assessments over two days worked well: children were willing to return on the second day to complete the activities and study administrators reported that the spacing of the activities over two days was appropriate for children of this age.
- The vast majority of children engaged well with the activities.
- Children's own ratings of their enjoyment of the tasks were positive.

## Timetable and reporting

The main study will take place in autumn 2018 and will involve approximately 3000 children in 202 schools. The results of IELS will be reported in 2019.

# 1. Introduction

The International Early Learning and Child Well-being Study (IELS) is a new study by the Organisation for Economic Co-operation and Development (OECD) to understand children's abilities at age five and the influence of early education experiences, home environment and individual characteristics on their learning and development.

## Objectives

IELS aims to gather evidence that can support and improve children's early learning experiences, outcomes and overall well-being. The main objectives of the study are to:

- Understand children's early learning and development at age five in international comparison
- Assess children's non-cognitive as well as cognitive skills by studying the following domains:
  - Social and emotional skills
  - Self-regulation
  - Emerging literacy
  - Emerging numeracy
- Analyse the influence on children's learning and development of:
  - Early childhood education and care (ECEC) experiences
  - Home learning environment
  - Individual characteristics
- Provide robust new evidence that can be used to help improve children's early learning outcomes and overall well-being

IELS is a new study which will be carried out for the first time in 2018. It is being developed with input from a range of experts in international research and early childhood education and care. The first round of IELS, like any major new international study, is an opportunity to develop and test the methodology of the study. If the first round of IELS is successful in achieving the main research objectives, OECD is expected to repeat IELS in future years with a larger number of countries. Therefore another important objective is to test the data collection instruments and procedures and learn from the results in order to establish a strong foundation for the study.

## England's participation

The Department for Education (DfE) announced England's participation in IELS in July 2017. Participating in this first round of IELS will help to ensure that England can

contribute to, and learn from, the development of this important study. We expect IELS to provide valuable and internationally comparable statistical evidence on children's early learning and development, which we know is important for educational attainment throughout childhood and later life. IELS will increase our understanding of children's cognitive and non-cognitive abilities at age five; how their language and numeracy skills relate to social skills, self-regulation and other aspects of well-being; how child development is influenced by different early learning experiences, including their experiences of ECEC provision and their socio-economic background; and how children's early development and well-being can be improved and supported. The holistic element of IELS in assessing non-cognitive as well as cognitive skills is innovative and particularly important in order to give a rounded picture of children's development.

IELS will complement the existing research evidence that is already available in England (such as the Study of Early Education and Development (SEED)<sup>1</sup> and the Effective Pre-school, Primary and Secondary Education (EPPSE)<sup>2</sup> studies). As an international study it will also enable us to compare children's development in England with children in other countries, who will have experienced different systems of early childhood education and care. IELS is expected to make a valuable contribution to the national and international evidence on this important subject which will ultimately benefit children, parents, teachers and schools.

## **Who will carry out IELS in England?**

Following a competitive tender process, DfE appointed the National Foundation for Educational Research (NFER) to carry out IELS in England.

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<sup>1</sup> Study of Early Education and Development (SEED): <https://www.gov.uk/government/collections/study-of-early-education-and-development-seed>

<sup>2</sup> Effective Pre-school, Primary and Secondary Education (EPPSE): <https://www.gov.uk/government/collections/eppse-3-to-14-years>

## **2. Ensuring the wellbeing of participants**

Ensuring the wellbeing of the children who participate in IELS is of the utmost importance. The study is designed to ensure that the tasks children are asked to complete are age-appropriate and engaging; voluntary; and administered by fully trained professionals who liaise with staff in the child's school. The study minimises the level of input required from participating schools, teachers, children and parents while still collecting the most relevant information, and is carried out in line with data protection regulations. The following paragraphs provide more details about these principles.

### **Developmentally appropriate activities**

IELS studies children at age five. In England the study will take place in autumn term when most five year olds will be in year 1, although a small proportion will be in reception.

The IELS assessments use tasks based on stories, puzzles and games. The tasks have been developed by an expert team with advice from leading international academic experts in child development, and have been piloted with five year olds to ensure they are age-appropriate. In total there are four domains to be assessed and each assessment takes about 15 minutes to complete. The four domain assessments will be spaced out over two days, with a break after each domain, to suit this age group. Each participating child will be asked to complete around 30 minutes of tasks per day, and will be offered a five minute break in the middle.

The use of tablets is innovative and enables an interactive approach that children enjoy.

### **Experienced study administrators**

The children will complete the activities overseen one-to-one by trained study administrators. NFER's IELS study administrators are experienced current or former teachers, with Disclosure and Barring Service (DBS) background checks, who are briefed on child protection and working with young children.

The study administrators are trained to avoid placing pressure on children by creating a relaxed atmosphere, engaging each child's interest in the tasks, and giving them encouragement. The study administrators will ensure the children can use the tablet, monitor the children's reactions and ensure that children are happy to take part in the activities. If children do not want to take part, the study administrators will ensure that children are not pressured to do so, or to continue with the activities if they show signs of wanting to stop.

Each study administrator will spend about a week in each school, working with teachers, children and parents/carers. Prior to their visit they will liaise with the school staff to agree

the logistics of the visit, including awareness of any relevant school policies and how best to ensure the well-being of children during the study.

## **Confidentiality and data protection**

Parents will be sent information about the study to enable them to make an informed decision about their child's participation in the study, including a privacy notice setting out the legal basis for the data collection involved in the study and information on how to withdraw their child, as required by data protection legislation. All information will be held securely and no individual child, parent, carer, teacher or school will be identified or identifiable in any reporting. Only anonymous data, which will not identify any individual or school, will be submitted to the OECD.

### 3. Methodology

The data collection methodology uses tablet-based activities for children and questionnaires for school/early years staff and parents. Each child will be invited to take part in a number of short and engaging tasks on a tablet and their parents/carers and school teachers will be asked to complete a questionnaire on each child.

IELS involves:

- **Direct assessment of children's abilities in the four early learning domains of emerging literacy, emerging numeracy, self-regulation and social and emotional skills, using:**
  - Tablet-based interactive activities with children using stories and games, overseen one-to-one by a trained study administrator
  - 15-20 minutes per domain, with two domains administered per day with a break between each
- **Indirect assessment of children's cognitive and socio-emotional skills, using:**
  - Parent/carer and staff questionnaires to provide more information on:
    - children's abilities in the four early learning domains of emerging literacy, emerging numeracy, self-regulation and social and emotional skills
    - behaviours observed at home and school
  - Parent/carer questionnaires will collect additional information on each child's history of ECEC, individual characteristics, and home environment
  - Staff questionnaires will also collect additional information on the characteristics of the children's teachers

Standardised assessment ensures that the questions are presented to all children in the same way. Each participating country must meet rigorous standards at each stage of the study, from translating and adapting the instruments, sampling, and to the way the study is administered to ensure that results within a country and between countries are not unduly influenced by factors outside the assessment itself.

### Sampling

In England, the target population of children comprises all children aged five years old who attend an officially registered school that provides education and care for children in

this age cohort. This includes all maintained schools, academies and independent schools which admit five year old children. In other countries, the population of five year olds will also be sampled from officially registered early years centres (in recognition that school starting ages vary), but in England, the vast majority of five year olds will already be attending school. Home-educated children are not in scope for IELS.

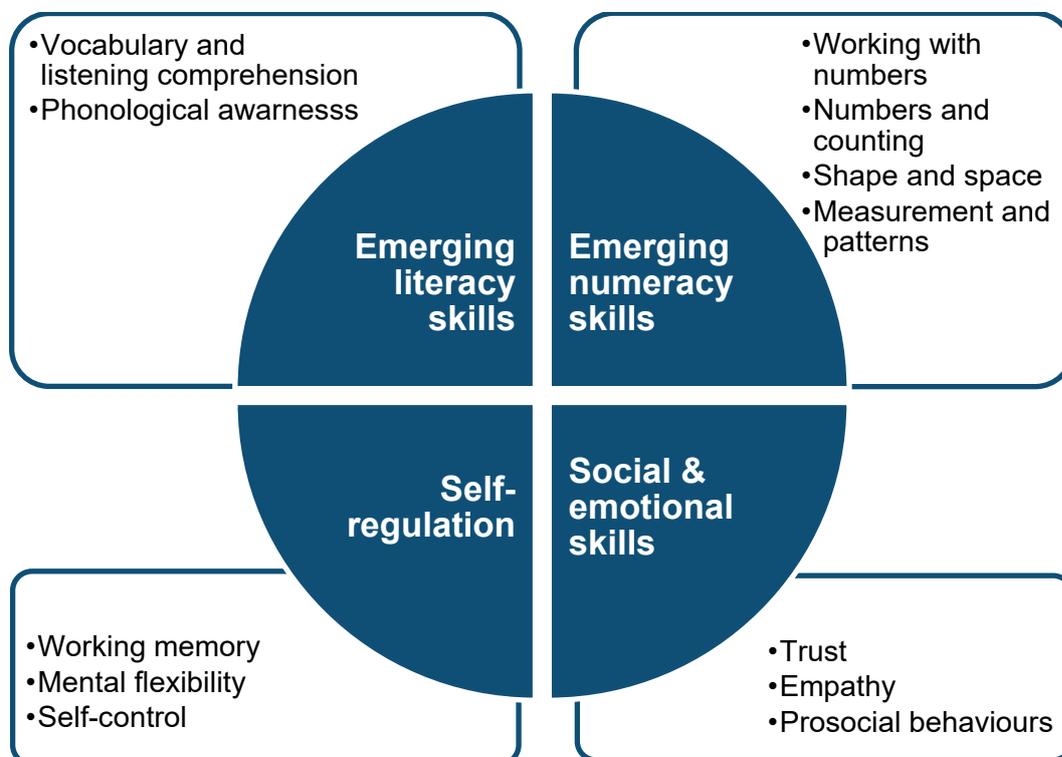
An unbiased sample of schools, and children within schools, will be drawn for IELS using a random probability sampling methodology. Participating countries must make every attempt to ensure a high rate of participation by sampled schools and children. This is necessary to ensure the results are highly reliable and can be generalised to the wider population.

The field trial in 2017 sampled 477 children from a total of 32 schools, while the main stage in 2018 will sample approximately 3,000 children from a total of 202 schools. On average, 15 children are sampled in each participating school.

## Domains to be assessed in the direct assessments

Figure 1 below illustrates the four domains of learning that will be assessed directly using tablet-based activities with each sampled child.

**Figure 1: The four early learning domains to be directly assessed in IELS**



## Tablet-based activities

The learning domains are assessed by tablet using interactive stories and games, with two animated child characters who appear throughout (see Figure 2 below). “Mia” and “Tom” appear at the beginning of each domain, greet the child, and introduce themselves. They appear throughout each domain, explaining how to use the practice questions, providing encouragement during the tasks, and guiding the child through different sections of the assessment.

All tasks are presented aurally. Children are not asked to, and do not need to, read or write to participate in the activities. For example, the emerging literacy tasks are based on listening comprehension, vocabulary (understanding of spoken words) and phonological awareness.

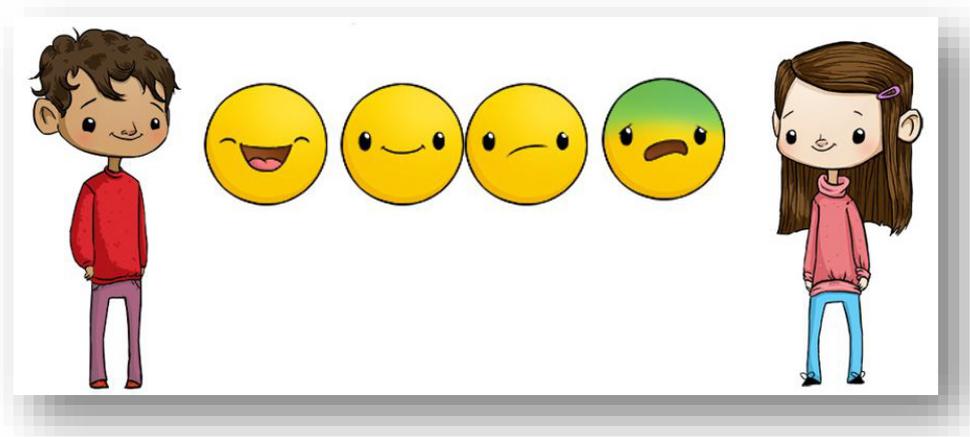
Mia and Tom’s names and appearance can be customised to reflect the cultural diversity within each participating country.

**Figure 2: Example of illustrations used in the tablet-based child assessments**



At the end of each of the four domains, the child can record their feedback on the activities they have taken part in using a rating scale, as shown in figure 3 below.

**Figure 3: Example rating scale used in the tablet-based assessments**



### Indirect assessments and data collection

The information from the direct assessments will be complemented by information collected from each sampled child’s parent(s) or carer(s), and the teachers or staff members who knows the child best. The questionnaires cover a range of relevant information, including the child’s skills in the four domains of emerging literacy, emerging numeracy, self-regulation and social and emotional skills. In this way the information gained directly from the tablet-based assessments can be analysed in conjunction with the responses of the child’s parents/carers and teachers.

The questionnaires also collect important background information about the child, their family circumstances and their teacher’s characteristics. This is to enable further analysis of the different factors associated with children’s skills and abilities at age five.

**Figure 4: Topics to be assessed indirectly via parent questionnaires**



## What will participants be asked to do?

IELS in England will be carried out NFER, who will contact the sampled schools with details of how to take part.

### Schools

The schools selected to take part in IELS are asked to:

- nominate a member of staff to act as a co-ordinator
- identify suitable dates, and a location in the school, for the study to take place
- provide information about the number of five year olds in the school so that children can be randomly selected to take part in the study
- share information with parents/carers and teachers of the sampled children and encourage them to complete the questionnaires

### Parents and children

Parents of the sampled children will be informed about IELS and will have the choice to withdraw their child if they wish. They will be encouraged to complete the parent questionnaire.

Children will be supported one-to-one by a study administrator to complete the assessments on a tablet. The assessments will take between 1 hour and 1 hour 20 minutes per child, spread out over two days with an additional short break between each domain on each day. The study administrators are trained in working with young children and will spend time building rapport with each child and creating a positive, encouraging atmosphere. They will not press any child to complete the tasks if the child is reluctant or unhappy about taking part.

### Teachers

Teachers of the sampled children will be asked to fill in a questionnaire which covers their professional background and experience, and their understanding of each child's skills and abilities in the four domains of emerging literacy, emerging numeracy, social and emotional skills, and self-regulation.

DfE and NFER are very grateful to all children, parents, teachers and schools who take part in this study.

## 4. Field trial operational results

The IELTS field trial in England took place between 13 November and 15 December 2017. The purpose of the field trial was to pilot the study on a small scale in order to check that the design and operations of the study were working, and to learn from the experience in order to optimise the instruments and procedures for the main study.

### Participation rates

The IELTS field trial in England was successful in achieving the minimum targets stipulated by OECD of 30 schools and 450 children. In total, 32 schools and 453 children took part. The participation rates for children and teachers were particularly strong, and the participation rate of parents/carers was substantially higher than achieved in previous international studies in England. In total:

- 96% of sampled children participated, of which 95% completed all four domain assessments
- 93% of teachers of participating children completed questionnaires about the sampled children
- 58% of parents/carers of participating children completed questionnaires

We expect that the longer recruitment and fieldwork period available for the main study will help to ensure even higher response rates.

### Engagement and wellbeing of participants

The high response rates to the field trial give an indication that the study is acceptable to the target respondents (schools, children, teachers and parents/carers) and is capable of engaging them. This is reinforced by positive feedback from children, schools, teachers and study administrators about the study.

The field trial demonstrated that the design of the study is successful in ensuring children's wellbeing, in particular:

- The delivery of the direct assessments over two days worked well. Children were willing to return on the second day to complete the activities. Study administrators reported that the spacing of the activities over two days was appropriate for children of this age.
- The vast majority of children engaged well with the activities. Study administrators reported that in general, children were willing to take part in the study, found the activities engaging, and that even those children who had no previous experience

of using a tablet found the technology easy to use. Study administrators were also asked to record their professional judgement about each child's level of engagement with the tasks. This information is valuable for understanding the extent to which children were able to concentrate during the activities. In total, just 2% of children were rated as "not at all on task", while 9% were "easily distracted to a large degree".

- Children's own ratings of their enjoyment of the assessments were positive. Where these were recorded, the percentage of children who selected the "happy" or "very happy" emoji (figure 3 in section 3 above) ranged from 84% (for self-regulation) to 91% (for numeracy).

These results are being used to inform revisions to further enhance the appeal of the study to children.

## **Effectiveness of study administration processes**

The study administration processes worked effectively. In general, participating schools reported that they found completing the required tasks straightforward, arrangements for the study were efficient and the amount of time required of school staff was acceptable. The following lessons from England's field trial have been reported to OECD for the main study:

- Timetabling improvements: Protect the longer length of the main study recruitment and fieldwork window in order to provide greater flexibility to schools when the study will take place and, therefore, to optimise response rates.
- Improvements to research instruments: Review the content, order, and length of the child assessments so that there is an appropriate balance between the easier and more challenging tasks. Review the parent questionnaire for length and clarity in order to improve engagement and completion rates.
- Improvements to processes: Improve some aspects of the functionality of the tablet-based tasks and the guidance for study administration.

## 5. Timetable

Table 1 below shows the timetable of the IELS study in England.

**Table 1: IELS project timetable for England**

<b>Activity</b>	<b>Date</b>
Field trial	November and December 2017
Review of field trial	January to May 2018
Main study	October to December 2018
Analysis and reporting	2019 and 2020

### Reporting

The reporting will analyse the results from all participating countries in international comparison, and draw out findings that are particularly relevant to the context in each country. There will be a specific report focusing on the findings in England. The main reports are due to be published in 2019 and further analysis is due to be published in 2020.

IELS is designed to generate aggregate statistics that are representative of children of age 5 in each participating country. It is not designed to produce statistically reliable data about each individual participating school, since only a small number of pupils in each school will be asked to take part. Therefore, the findings for each individual participating school will not be reported separately.

## 6. Further information, comments and feedback

OECD's IELS pages include a comprehensive introduction and background to the study:  
[www.oecd.org/edu/school/international-early-learning-and-child-well-being-study.htm](http://www.oecd.org/edu/school/international-early-learning-and-child-well-being-study.htm)

NFER, the contractors for England, have set up a website for IELS participants:  
<https://www.nfer.ac.uk/iels/>

DfE has convened a National Advisory Committee (NAC) to provide independent advice, guidance and constructive feedback to DfE and NFER on the implementation of the study in England. The NAC draws members from a wide range of independent organisations and individuals, including representatives of the early years and primary education sectors, teaching unions and associations, and academia. Members attend meetings and provide advice on a voluntary basis with reasonable expenses paid. Members are asked to maintain confidentiality of the group's proceedings in order to facilitate full and open discussion of draft documents and issues arising. The membership of the NAC may evolve over time according to the different stages of the study.

Comments from interested organisations and individuals are welcome:  
[IELS.enquiries@education.gov.uk](mailto:IELS.enquiries@education.gov.uk)



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