International Early Learning and Child Well-being Study (IELS)

Summary for Schools and Parents: England

Kelly Kettlewell, Caroline Sharp and Eemer Eivers

Thank you to all the children, parents/carers and teachers who took part in IELS.
IELS England Summary for Schools and Parents

What is IELS?
IELS is a new study of 5-year-olds by the Organisation for Economic Cooperation and Development (OECD). It aims to help families, educators and governments give children the best possible support in their early years. Three countries took part in IELS in 2018: England, Estonia and the United States.

In England 2,577 children from 191 schools took part.

1 The majority of children were aged 5 at the time, although a small number were aged 4 years 11 months or 6 years 0 months.
2 This is the first time OECD has carried out this study and as such just a small number of countries took part.

Children’s development was measured in two ways: 1) through a mix of specially designed tablet-based activities and games completed by the children and 2) through questions completed by the children’s teachers and parents. The tablet-based activities were designed to be easy for children to complete even if they had no experience of using a tablet. Children were supported by an adult when using the tablet.

Other types of information were also collected on the children and their background so that results from different groups of children, with different experiences, could be compared. This included:

- the home learning environment (such as how many children’s books were in the home or how often parents read to the child)
- whether they were eligible for free school meals or not. (Eligible children are those living in households claiming some form of employment-related welfare benefit and this is often used as an indicator of disadvantage)
- if they had English as an additional language or not
- if they were registered as having special educational needs (SEN) or not
- their ethnicity.

What did IELS measure?
The study looked at five areas of development: emergent literacy, emergent numeracy, self-regulation, social-emotional development and physical development.

Emergent literacy
Understanding spoken words and sentences, recognising letter sounds and having a good vocabulary.

Emergent numeracy
Identifying numbers, patterns and shapes, and counting.

Self-regulation
(inhibition, working memory and mental flexibility)
Controlling impulses, concentrating, remembering and adapting to new information.

Social-emotional
(emotion identification, emotion attribution, prosocial behaviour, non-disruptive behaviour and trust) and persistence
Recognising how other people are feeling and why they may have different emotions, being friendly, behaving appropriately and trusting others. How well children continue with a task or activity despite coming up against challenges or obstacles.

Physical development
Controlling large and small movements such as throwing and catching a ball or using a pencil.

Emergent literacy
Understanding spoken words and sentences, recognising letter sounds and having a good vocabulary.

Emergent numeracy
Identifying numbers, patterns and shapes, and counting.

Self-regulation
(inhibition, working memory and mental flexibility)
Controlling impulses, concentrating, remembering and adapting to new information.

Social-emotional
(emotion identification, emotion attribution, prosocial behaviour, non-disruptive behaviour and trust) and persistence
Recognising how other people are feeling and why they may have different emotions, being friendly, behaving appropriately and trusting others. How well children continue with a task or activity despite coming up against challenges or obstacles.

Physical development
Controlling large and small movements such as throwing and catching a ball or using a pencil.

What did IELS measure?
The study looked at five areas of development: emergent literacy, emergent numeracy, self-regulation, social-emotional development and physical development.
Information about the three participating countries

There are large differences between the three countries involved in IELS in relation to the proportion of 3-year-olds regularly going to formal childcare, the age at which children start compulsory schooling and the education outcomes of older children (as measured by the Programme for International Student Assessment (PISA) which measures 15-year-olds’ abilities in reading, maths and science across 79 countries).

**United States**
- 42% of children take part in formal early childhood education and care at age 3
- Children start compulsory school between 5 and 6 years old
- PISA 2018 showed that 15-year-olds were above the OECD average for reading and science but lower for maths

**Estonia**
- 91% of children take part in formal early childhood education and care at age 3
- Children start compulsory school at 7 years old
- PISA 2018 showed that 15-year-olds were among the top performing of all OECD countries for reading, science and maths

**England**
- 100% of children take part in formal early childhood education and care at age 3
- Children start compulsory school at 5 years old (though many are 4 when they start school)
- PISA 2018 showed that 15-year-olds were above the OECD average for reading, science and maths

How do 5-year-olds in England compare with other countries?

For children aged 5, IELS showed a number of differences between the development of children across the three countries.

- For working memory and mental flexibility, children in England showed similar development to children in Estonia and greater development than those in the US. For inhibition (the ability to stop a newly-learned response when given new information), children in England showed lower development than children in the other two countries.
- Children in England and the United States were less disruptive than those in Estonia.
- Children in England and the United States showed lower levels of emotion identification and prosocial behaviour than those in Estonia.
- Children in all three countries had similar levels of emotion attribution and trust.

---

3 All differences reported in this summary are statistically significant. This means that a statistical test has been used to check that the difference was unlikely to be due to chance.
Average scores of 5-year-olds by country on the IELS cognitive measures

- Emergent literacy
  - England: 515
  - Estonia: 477
  - United States: 508

- Emergent numeracy
  - England: 529
  - Estonia: 500
  - United States: 500

Average scores of 5-year-olds by country on the IELS self-regulation measures

- Inhibition
  - United States: 521
  - Estonia: 520
  - England: 460

- Mental flexibility
  - United States: 477
  - Estonia: 511
  - England: 511

- Working memory
  - United States: 464
  - Estonia: 513
  - England: 516

Average scores of 5-year-olds by country on the IELS social-emotional measures

- Emotion identification
  - United States: 493
  - Estonia: 511
  - England: 497

- Emotion attribution
  - United States: 500
  - Estonia: 500
  - England: 500

- Prosocial behaviour
  - United States: 494
  - Estonia: 511
  - England: 495

- Non-disruptive behaviour
  - United States: 515
  - Estonia: 470
  - England: 515

- Trust
  - United States: 493
  - Estonia: 503
  - England: 504

(All the measures had a mean of 500.)
Key insights for 5-year-olds in England

Aspects of young children’s development are highly connected

IELS shows that most aspects of young children’s development are related to each other; however there were some areas that appeared to be more strongly related.

- Emergent literacy and numeracy were strongly related to each other and also to working memory and mental flexibility.
- Physical development was most strongly related to the social-emotional measures of prosocial behaviour and trust.
- Emotion identification and emotion attribution were strongly related to each other. Emotion identification was also related to emergent literacy and numeracy.

Children’s development was strongly related within and across areas

Persistence is important

Having high levels of persistence (the ability to continue with a task despite coming up against difficulties) was related to greater development across all IELS measures. However, the biggest differences were for emergent literacy, emergent numeracy and mental flexibility. For these measures children rated as ‘always’ or ‘often’ persistent, were 10 months or more ahead of children rated as ‘rarely’ or ‘never’ persistent.

Persistence was also seen to be related to all of the 11 IELS outcome measures, with the strongest relationships being with prosocial behaviour, trust and physical development. These findings suggest that persistence may be an important factor in children’s development.

---

4 This was based on teachers’ ratings of each child’s ability to ‘continue on his or her planned course or action in spite of difficulty or obstacles’.
Which children may need more support with their learning and development?

IELS showed that, on average, the following groups of children were several months behind their classmates in a number of areas of development at the age of 5:

- children with an identified SEN
- children eligible for free school meals (FSM)
- those with English as an additional language (EAL)
- children with low birthweight (under 2.5 kilograms)
- boys.

The reasons for these differences are complex and it is important to bear in mind that these results are based on averages, which means that not all children in these groups will be affected to the same extent. However, families and schools may wish to consider that children in these groups may need extra support.

Months’ difference: children with an identified SEN were behind other children on a range of IELS measures

-12 (over 12 months behind their peers)  
-12  
-11  
-11  
-8  
-8  
-8  
-4  

Physical development  
Emergent literacy  
Mental flexibility  
Emotion identification  
Emergent numeracy  
Working memory  
Emotion attribution  
Inhibition

Months’ difference: children eligible for FSM were behind those who were not on a range of IELS measures

-8  
-6  
-5  
-5  
-4  
-4  

Physical development  
Emergent literacy  
Emergent numeracy  
Emotion identification  
Emotion attribution  
Working memory  
Mental flexibility

Months’ difference: children with English as an additional language were behind other children on a range of IELS measures

-8  
-3  
-3  
-3  
-3  

Emergent literacy  
Emergent numeracy  
Mental flexibility  
Working memory  
Emotion attribution

Months’ difference: children with low birthweight were behind other children on a range of IELS measures

-9  
-4  
-4  
-3  

Physical development  
Working memory  
Emergent numeracy  
Emergent literacy

Months’ difference: girls were ahead of boys on a number of IELS measures

9  
7  
5  
2  
-1  

Physical development  
Emotion attribution  
Emotion identification  
Emergent literacy  
Inhibition
How can parents/carers support children's learning at home?

IELS showed that there were activities that parents can do with their children at home to help support their development. The following activities had the strongest links with children's development at the age of 5.

- **Having lots of children's books in the home (including library books)**
  - Having 10 or more books was linked to higher emergent literacy development.
  - Having more than 25 books was linked with higher emergent numeracy and physical development.

- **Reading to children at least 5 times a week**
  - Linked to stronger development in emergent literacy, prosocial behaviour, emotion identification and self-regulation.

- **Parents being engaged in their child's school (attending parents' evenings and activities at the school)**
  - Linked to higher emergent literacy, emergent numeracy and all social-emotional development measures.

- **Having regular back and forth conversations with children about their feelings**
  - Linked to stronger development in emotion identification, emotion attribution, emergent literacy and prosocial behaviour.

- **Helping children to read words and sentences at least three times a week**
  - Linked to higher emergent literacy, emergent numeracy, emotion identification and self-regulation.

- **Doing some special activities (such as sports clubs, dance, swimming or language lessons) outside the home regularly but not every day**
  - Linked to higher emotion identification, emotion attribution and prosocial behaviour, emergent literacy, emergent numeracy and physical development.

In a nutshell

IELS tells us that 5-year-olds in England are developing well, on the whole, when compared with children in other countries, especially in emergent numeracy. Some children, especially those with SEN, low birthweight, those who have English as an additional language, and from more economically disadvantaged backgrounds, tended to have lower development at age 5 and may need extra support.

There are many things that parents can do at home to help their children develop and thrive. This can include regularly reading to children, talking to them about their feelings, helping them to read and being engaged with their child's school.

Children's development in one area (such as emergent literacy or numeracy) is positively related to their development in other areas (such as their ability to recognise others' emotions, their working memory and mental flexibility). In addition, persistence in children is related to good development in all the areas IELS measured.


The national summary report for England can be found at: [www.nfer.ac.uk/media/4215/iels_national_summary_report_for_england.pdf](http://www.nfer.ac.uk/media/4215/iels_national_summary_report_for_england.pdf)
NFER was contracted to carry out IELS in England on behalf of the Department for Education (DfE) and this report includes analysis of pupil administrative data from the DfE’s National Pupil Database (NPD). However the views expressed in this report are the authors’ and do not necessarily reflect those of the DfE.

Please note that this work was produced using statistical data from ONS. The use of the ONS statistical data in this work does not imply the endorsement of the ONS in relation to the interpretation or analysis of the statistical data. This work uses research datasets which may not exactly reproduce National Statistics aggregates.