

Institute of Education
University of Reading

Efficacy study of
Explore Learning
Maths and English
Tuition pupils

Value, Attitudes and
Attainment

Explore
Learning



**University of
Reading**

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About the University of Reading, Institute of Education

The University of Reading is ranked as one of UK's 20 most research intensive universities and as one of the top 200 universities in the world. The Institute of Education has several distinctive research groups which make a significant and widely recognised contribution to the study of Education. It is strongly research-led with strengths in school improvement and pupil attainment; inclusion and special educational needs; language assessment and measurement; historical and comparative aspects of education and science education.

The Institute of Education at the University of Reading is one of the leading providers of teacher training in the UK. Every year, nearly a thousand students graduate as Newly Qualified Teachers (NQTs) and many more qualify at Masters and PhD level. The University has excellent partnership arrangements with over 300 local schools and has collaborative research relationships with teachers, educationalists, parents and pupils. These findings will be shared with this community and more broadly through journal articles and conference presentations.

Explore Learning Centres

Explore Learning has tuition centres across the UK for 5-14 year olds. Children become members and attend once or twice a week for sessions that last approximately 1 hour and 15 minutes. Every centre is open 7 days a week, and members do not have to book in advance, meaning that Explore membership can fit in easily with your family's routine.

The maximum ratio is six children to one tutor. Explore Learning tutors are trained and primarily use computer based teaching materials and their own brand of writing resources. The learning tools are closely mapped to the school curriculum and many adapt to the ability of the child so that he or she is challenged at their level.

Praising and rewarding members is an important feature of the programme – with members receiving verbal praise from tutors, certificates and a round of applause from other pupils; and a long and short term reward scheme called the ACE challenge that rewards children for asking for help, concentration and effort. This is accompanied by lizard cards that are awarded for attainment and can be collected or exchanged for prizes.

Explore Learning tutors receive training and support in: current teaching methods; how to motivate and inspire children; behaviour management; Ofsted/Care Commission regulations and Health and safety among others.

Explore Learning was awarded Supplementary Education firm of the year in 2011 and 2012 by the Education Investor Awards and *The Sunday Times* Best Companies to Work for in 2013. Explore Learning centres work closely with local primary and secondary schools in their communities and often hold free literacy and numeracy events throughout the school year.

Initiatives such as the National Young Writers' Awards Workshops and Competitions and the National Young Mathematicians Award have been developed by Explore Learning to foster and celebrate interested and talented writers and mathematicians from across the UK.

In addition to a focus on academic progress, Explore Learning encourages members to benefit from and develop:

- ▶ Increased confidence
- ▶ Greater enthusiasm for learning
- ▶ Increased independence
- ▶ Better concentration
- ▶ Skills in making new friends.

Executive Summary

The after school support and tuition that Explore Learning offers to primary and early secondary pupils and their parents through England and Scotland is generally described as 'supplementary education' or 'out of school learning.' The effect of out of school learning on improving results and increasing efficacy in key curriculum subjects remains an under-researched area within education.

This independent research was undertaken to assess, through parents and Explore Learning members/children opinions and test results, *'What difference can Explore Learning really make?'* and *'What motivates a parent to join their child and are these motivations met by Explore Learning over time?'*

Explore Learning members were independently tested in maths and English over two time periods (October 2011 and July 2012). Tests were provided by GL Assessment and included: a *Progress in Maths (PiM)* test assessing a pupil's mathematical skills and concepts and a *Progress in English (PiE)* test covering a pupil's reading and writing ability. These tests are the standardised maths and English assessment of choice in many schools throughout the UK.

The test results for Explore Learning members were compared with: national averages and a comparison group of similar aged children who did not attend Explore Learning.

Key research questions the tests were designed to answer were:

- Is there a measureable difference in SAS (standardised age scores) performance between children in school years 3, 4 and 5 (aged between 7 to 11 years) receiving Explore Learning tuition relative to a comparison group of children?
- Do members receiving more Explore Learning tuition perform better over time than members receiving less Explore Learning tuition?

What's important for parents? Why do children join Explore Learning?

By analysing parents' responses in the focus groups and online questionnaires (dataset of over 2,000 responses) it was clear that the two dominant reasons for deciding to join Explore Learning were:

1. To improve their child's confidence
2. To address an identified problem in maths, English or both areas and an urgent need to ensure their child does not continue to struggle and/or fall behind their peer academic support

This research finds that both of these objectives were met. A majority of parents believed that their child's confidence had markedly increased, citing examples from now putting their

hand up much more in class to answering questions and participating, to school teachers commenting about improvements in confidence. Parents perceived early primary school years (aged 7 onwards) to be critical for self-confidence and its added value to self-efficacy in school and independent learning. These members of Explore Learning also indicated that they felt supported by tutors, enjoyed the praise and recognition of their success and the type and use of incentives (e.g. lizard/reward cards and surf club). Parents stated that their child's increased level of confidence positively affected their willingness to read new material and practice some maths beyond regular homework and Explore Learning sessions. They thought their child/ren demonstrated greater enthusiasm and motivation to learn and stretch their new knowledge in maths and English as a result of attending Explore Learning and having acquired a new attitude about their capabilities.

Explore Learning benefits children who are struggling in maths or English and those who need help to prevent them from falling further behind their peers as well as those working to keep ahead. **Analysis of the two test results found that Explore Learning assists its members to:**

- ✓ **Catch up with their peers – with newest members showing highest rates of improvement**
- ✓ **Progress in line with expected levels of achievement between years.**

Key findings

- **On the whole, this research shows that Explore Learning tuition is beneficial to both boys and girls, of all abilities, across all age ranges in the study, living in all socio-economic areas.**
- **Explore Learning members significantly improved their SAS in Progress in English (3 SAS points) and Progress in Maths (5 SAS points) between the two tests.**

Table 1 Maths and English test results for Explore Learning and comparison group

	First PiM test	Second PiM test	PiM gain	First PiE test	Second PiE test	PiE gain
Explore Learning members	92.6	97.8	5.2	102.5	105.6	3.1
Comparison group members	101.5	104.9	3.4	102.6	105.6	3.0
National average	100	100	0.0	100	100	0.0

- **Explore Learning members' improvement in maths was 30%, or 1.6 percentage points, higher than that of the comparison group after controlling for gender, age, year group, local authority and special educational needs.**
- **In focus groups parents talked of noticing an increased interest in maths as their child increased their skills through extra support at the twice-weekly sessions. This effect is particularly pronounced for those parents whose children attended Explore Learning for more than 6 months**
- **With most parents concerned that their child has below average or weak English skills and might be falling behind their classmates, it is evident that by attending Explore Learning, on average, these children did not fall behind and improved in line with the national standard.**

Efficacy study of Explore Learning Maths and English tuition pupils (Values, Attitudes & Attainment)

- Boys experience a marginally higher rate of change in English but girls' attainment levels were higher. While the change for female Explore Learning members in maths is marginally higher than for male pupils, **the average improvement across genders is positive and significant.**
- It is difficult to separate out the causal relationships between increased attainment levels in maths and English with attendance at Explore Learning, due to the multiplicity of pedagogic tools employed by Explore Learning tutors. A key impact of this tuition may relate to member motivation and subject enjoyment. In the qualitative data **the majority of parents believe their child/ren shows greater motivation and interest in a range of English skills** including: increased vocabulary, reading more, writing more and better quality stories since joining Explore Learning. Similarly, most members believe they have made an improvement in English via enjoying reading more and feel more confident in their English abilities.
- The **quantitative analysis (test results and regressions) shows that members who enjoy maths or English also achieved higher levels of attainment in that subject.** The research did not collect information on any change over time (or retrospectively) of members liking of a subject i.e. 'Do you like maths more now than before you started at Explore Learning? More than 6 months ago?' But parents were of the strong opinion that since attending Explore Learning their child's interest in the subject in which they had improved has increased.
- **Children living in the most deprived areas make an improvement in their maths and English attainment levels at the same rate as children living in more affluent areas.** In the first test their scores were lower than other children and they remained lower in the second test but they had improved at the same rate as other children. The impact of regularly attending two sessions a week at Explore Learning resulted in a positive change in attainment levels.

Parents perceptions of efficacy: changes in confidence and attainment

- Length of time at Explore Learning (over 6 months compared with under 6 months) is seen by parents to benefit their child's performance. The quantitative analysis shows that **cumulative tuition hours has a positive effect on attainment.**
- Parents indicated that they had noticed, since their child joined Explore Learning, that their child showed a greater interest in maths and English and had significantly improved in their school performance. However, **parents' awareness of their child's abilities and grading in the National Curriculum was not always accurate** – test results indicate members average starting point was lower than the national average hence the need for catch up assistance. Most parents in their responses to both questionnaire 1 and 2 thought their child was above average in maths and above average in English.
- Many parents talked of Explore Learning helping their child **shift from a disposition of 'helplessness' to greater self-belief and confidence. Importantly this mattered, to**

many parents, more than increasing performance and attainment levels. Feeling able and more self assured was seen to benefit their child's attitude across a wide range of activities at home, school and socially. More than half of the parents at the focus groups and when answering the question: 'What are the main reasons your child became a member of Explore Learning?' selected 'Keen to improve child's confidence at school.'

- The vast majority of parents involved in the research were **very satisfied with Explore Learning and would recommend Explore Learning to friends with children.** Results for the first online questionnaire reveal that a total of 98% of parents would recommend Explore Learning – with 75% of parents choosing '**would definitely recommend**' Explore Learning with a *further* 23% agreeing they would '**recommend to other families**' if they knew the child's needs were similar to their own.
- They discussed several aspects which enhanced the learning of their children including:
 - ▶ The **attention and support** of Centre Tutors and Managers towards their child/ren.
 - ▶ The **personalised aspect** of the learning programme and its capacity to be altered to suit their child's learning progress and new difficulties in subject knowledge as they arise.
 - ▶ The ability of Explore Learning to **challenge students at all levels** – remedial through to high-achievers. Parents with children with SEN felt included and believed their child benefitted in the same way (help with difficulties, learning new material and social aspect with peers) as other members.
 - ▶ **Flexible access** on weekends, holidays and after school.
 - ▶ **Good fit with family lifestyle** – two sessions a week after school was seen as low commitment/demand on other tasks and time. Location within supermarket also seen as useful.
 - ▶ **Combination of maths, English, surf club and lizard cards** encourages their child/ren's increased motivation, confidence and effort towards learning.
- Several parents commented that schools can be a 'disappointment' and more than ever, parents have to 'make up the difference' when pupils are not being taught adequately at school. For some parents Explore Learning provided this support instead of parents.

Child/Member perceptions of efficacy: changes in confidence and attainment

- **In terms of the two test results and change in attainment levels, children correctly thought they were improving slightly more in maths than English.** They also indicated that they enjoyed maths slightly more than English – though Art and PE were members' favourite school subjects by a clear majority.
- **Children held efficacy views about:**
 - ▶ When they are bored in a subject or find it 'too hard' they tend not to perform well in it
 - ▶ That concentrating and trying hard led to improved results (e.g. finished more questions; receiving more lizard cards or 'moving up' to another table in their school class)
 - ▶ Being 'good' at a subject helped them to enjoy it more.
- Unsurprisingly, children seemed to interpret the **benefit of Explore Learning** from a personalised understanding of why they attend. Their view of expected improvement was similar to the progress they gained in attainment levels in maths and English. For

most children attending Explore Learning was about receiving 'help'. When asked to complete the phrase: 'English and maths at Explore Learning will be...' most children wrote comments about it being 'helpful for school work', 'helpful to get into a good school', 'helpful because I am not very good at it', 'more helpful so I can move back up a class' and 'help me stay at the top'. The next most popular set of phrases centred on 'fun' and enjoyment.

- Overwhelmingly a key issue that emerged from focus groups with parents and in responses from Explore Learning members/pupils in surveys, was the strong impact Explore Learning had on the overall confidence and self-esteem of children; and the belief that there has been **a positive impact on children's academic attainment since attending Explore Learning.**

Key dimensions of efficacy

Five key themes which emerged from the data are covered in the report and analysis of test results (Explore Learning members, comparison group and national averages) are included. The themes, presented in greater detail in the main report, are briefly summarised.

Theme 1: Increased confidence and independence

One of the main reasons why parents initially decided to join their child/ren to Explore Learning was to build much needed confidence in their child/ren about their academic abilities.

- Overwhelming, parents agreed that this objective had been fulfilled by their child/ren attending two sessions a week at Explore Learning. Parents thought that Explore Learning was very skilled at recognising the need for academic support in asking for help and developing tailored programmes of support for their child while also encouraging him/her through increasing the frequency and level of challenges at each session.

Parents in the focus groups cited many examples of their child/ren developing confidence.

- Confidence helps with overcoming crying and delays when completing homework, and anxieties and uncertainties when learning new information at school.
- Most parents indicated that prior to attending Explore Learning their child was not confident in attempting areas that they were weaker in or less familiar with in maths and English. Parents talked of their child being afraid to get things wrong and make mistakes – and how this anxiety and reluctance had lessened since attending Explore Learning. They had noticed that their children were proud of their achievements and felt more connected to their own involvement in learning.

Parents also mentioned their own increased confidence in their ability to address issues arising from school that they perceived were negatively affecting their child's learning or progress. Half of the parents at the focus group and some 40% of questionnaire responses raised a range of

problems they felt their child was experiencing at school – and importantly, how these were being addressed through Explore Learning’s level of challenge and workload.

Parents’ thought the academic support provided by Explore Learning, also increased their willingness and feelings of competency in engaging with their child’s formal and informal learning. More than half of the 2,000 parent responses indicated that parents think they are highly engaged in their child’s education – by talking with them on a daily basis about school and discussing with their children at the end of the two sessions at Explore Learning what they have covered.

Parents discussed how Explore Learning had assisted their level of engagement and ability to follow the progress of their children, often leading to greater communication with school teachers, for instance:

“(Now) I regularly make contact with teachers in school...It was important to form a relationship with my child’s tutors here, and keep them up-to-date with what my children are doing at school” **Mother, New Cross Gate.**

“At the Explore Learning parents meeting they show all the mistakes and the frequency of mistakes...when you know where the problem area is you can help...more effectively at home than before” **Mother, Bristol.**

Building confidence, overcoming shyness to put up their hand to ask for help, being more independent and less reluctant to try without assistance were all elements that parents recognised in their children and directly attributed to Explore Learning.

Theme 2: Greater enthusiasm or motivation for learning

Parents were very pleased with the changes they had observed in their child’s interest in learning and abilities since attending Explore Learning. These changes included:

- An increased confidence in their child’s capacity and willingness to ask questions at Explore Learning and in their school classroom
- To try and to extend themselves in subjects and topics that they are not strong performers in
- Increased personal motivation and planning their own learning targets through the Lizard Card system.

Theme 3: Increased attainment levels in maths

Explore Learning members’ starting level in maths was below the national average and the comparison group’s attainment level. Analysis of the two tests results in Maths shows that there was a general improvement between the two tests. Explore Learning members joining shortly before the first test, and therefore also having the greatest change in numbers of Explore Learning sessions before and after the first test, experienced a greater improvement than other Explore Learning members, but both groups showed a significant improvement in their Progress in Maths attainment. Improvement is in relation to both the national average and the comparison group.

The majority of parents in the first questionnaire noticed an improvement in their child’s interest in maths after attending Explore Learning (n= 755; 61.7%). This effect was particularly pronounced for parents whose children have attended Explore Learning for more than 6

months. These parents also thought their child was performing better in maths than English. Similarly, parent respondents in the smaller second sample and the focus groups thought their child was improving in maths.

The analysis of the test results shows that pupils experienced an initial positive improvement in Maths. In focus groups parents expressed the view that their child's interest in the subject had increased since starting at Explore Learning. Of course there may be a reciprocal relationship between motivation and liking of a subject and performance. The research cannot establish whether Explore Learning tuition effected motivation or attainment/performance first but there appears to be a virtuous circle in some of the pupils. In the second parent questionnaire the majority of parents thought that their child – or children for families with 2 or more at Explore Learning – had improved in maths and was more interested in it as a subject. In the second member survey more than two-thirds of children thought they had improved in Maths either a lot or a fair amount Very few pupils thought they had not improved.

The degree of needing to catch-up in maths varied from moving to a 'better table' (members views) within a set timeframe ('by Christmas') to trying to bridge a more serious gap. Parents thought that Explore Learning assisted their child/ren in catching up, covering new material and making maths more engaging and, for a smaller group of families, helping those performing well to continue.

Theme 4: Increased attainment levels in English

Explore Learning members' starting level in English was above the national average. Analysis of the two tests results in English shows that newer members, i.e. those joining Explore Learning shortly before the first test and therefore having the greatest change in number of tuition sessions, experienced some improvement between the two tests. It is likely that a similar positive improvement was experienced by other members when they started Explore Learning tuition and that this, in part, explains the slightly higher attainment level at the first test. For members joining Explore Learning sometime before the first Progress in English test (the majority) there is no strong evidence of further gain between the two tests, but instead a maintaining of their somewhat higher attainment level. Somewhat higher is in relation to the national average – attainment is otherwise similar to the comparison group.

There is strong evidence from the test scores, parents and members' comments that attainment, skill and confidence in English improved. Most parents are keen for their child to be challenged – often in order to improve their average or below average results in English – and able to demonstrate greater self-efficacy and motivation. Additionally, improving confidence at school was a very important factor for parents assessing their child's motivation in English.

Since attending Explore Learning, the majority of parents thought their child/ren now reads more and uses a wider range of new words Also parents said their child likes to write more and generally has greater motivation as evidenced in talking about English topics more. However, 28% of parents whose children has started at Explore Learning with three months of answering the survey 1, had not yet noticed a change in their child's motivation and interest in English. A smaller group of parents, nearly 9%, thought that it was 'too soon to tell' whether their child

had improved (overall) since being at Explore Learning – they had all joined their child/ren to Explore Learning less than 6 months ago.

In the focus groups, parents talked of their children trying more advanced techniques and ways of engaging with English – again, parents put this down to attendance at Explore Learning. These included using new and more complex vocabulary, feeling confident in their increasing English skills, follow-up research on what they were reading at Explore Learning and writing in their own free time.

Overwhelmingly, the main reason why a pupil did not like a subject was because they thought it was difficult and hard to understand. Following on from the subject difficulty pupils mentioned being bored and ‘not very good’ at it. For improvements in English, less Explore Learning members selected they had improved ‘yes a lot’ but more chose ‘yes a fair amount’ – again with most pupils thinking they had improved in English since starting at Explore Learning. It seems Explore Learning members had a more accurate view of their English abilities than their parents.

Theme 5: Positive learning environment

- **Parental involvement** in a child’s learning was prioritised by most Explore Learning parents. More than half of the 2,000 parent responses indicated that **parents think they are highly engaged in their child’s education** – by talking with them on a daily basis about school and weekly about Explore Learning. Few chose ‘not sure’ for questions about their child’s current performance in maths, English and science. They talked of the need to create a comfortable and confident environment at home for their children to ask questions.
- **Young members enjoyed the social aspects of attending Explore Learning.** This included both seeing friends outside of school, making new friends with other local children and sharing time together while in the surf club. Tutors were also highly praised by the majority of members – for their support, ability to connect with young children and help them learn. A small number of parents also mentioned that their child had formed better friendships with classmates they previously had difficulties interacting with at school.
- **Parents thought that there was no stigma attached to attending Explore Learning** and this was in part because of the tutors style and overall learning environment at the Centres – many indicated that were proud of their child/ren attending. Just as parents were very satisfied with Explore Learning, most parents who completed the first questionnaire were ‘either very proud’ or ‘extremely proud’ that their child attends.

Research Methodology

The evidence in this report is drawn from:

- ▶ The views of 1,252 English and Scottish parents from an online questionnaire in 2011 on their child's learning and progress since being a member of Explore Learning; and repeated in 2012 with 855 responses from parents whose children were tested in both time periods (October 2011 and July 2012).
- ▶ The views of 1,181 members of Explore Learning – in Years 4 to 6 in November 2011 – about their learning experiences and interests at both school and Explore Learning. This qualitative data was linked to members' two test results. To ensure Explore Learning members were included in the research a user-friendly bright coloured one page survey was designed. It used a combination of cartoon-type boxes for children to write their answers and simple tick boxes to agree or disagree with a set of statements. Pupils were encouraged to express their opinions and learn about why the research is of interest to their parents, Explore Learning and the education community more broadly.
- ▶ A smaller follow-up questionnaire with Explore Learning members was conducted in July-August 2012 with 57 members responding to a refined set of questions building on the findings from the initial questionnaire results.
- ▶ Focus groups with 71 parents across seven areas and 11 centres (including Barking, New Cross Gate, Slough, High Wycombe, Leicester x 2, Bristol x 2, Edinburgh x 2) whose children were part of the two-test process.
- ▶ Independent Testing of 1,437 (English) and 1,539 (maths) Explore Learning members in Years 3 to 6 (inclusive) tested twice (in September-November 2011 and July 2012). Results are compared with a control group of 2,060 pupils not attending Explore Learning. The online tests and control group were supplied by Granada Learning (GL Assessments) and are standard tests that thousands of school students complete each year.
- ▶ A power analysis was conducted as part of the research design stage (alpha 0.05, power 0.95, final N for male and females 730, respectively) and an assumption of an 8% monthly attrition rate. A matching comparison group was sought, but not obtained due to data limitations.

A separate detailed Technical Report on the quantitative analysis (descriptive and regressions) has also been provided. Qualitative data sets (focus groups and questionnaires) are also supplied as appendices.