

The effects and characteristics of family involvement on a peer tutoring programme to improve the reading comprehension competence

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Abstract The aim of the present study was to investigate the impact of an educational programme involving peer tutoring at school and family tutoring at home on child reading comprehension achievement in Catalunya, Spain. We drew upon a sample of 303 primary school students from 8 to 11 years old and 223 family tutors from home (61.5% mothers, 15% fathers, 17% both parents, 6.5% siblings). Reading comprehension performance was assessed through standardised tests in pre and post-test bases. Background variables were collected by means of student and parent questionnaires and also teacher and family interviews. An analysis of the family tutoring interactions was also performed. The main results showed positive effects for all the students, but especially for the 223 students who received family support. Overall, the study reveals the effectiveness of peer learning to improve reading comprehension skills and the potential of family involvement for the development of academic skills when the school provides trust and support for it.

Keywords Peer tutoring · Reading comprehension · Family involvement · Literacy skills · Primary school students

Introduction

Several studies have concluded that family involvement in school-related activities at home appears to be beneficial for the children's school achievement and motivation (Martínez

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2004; OFSTED 2001; Pomerantz et al. 2007; Sénéchal 2006; Wolfendale and Topping 1996). While research on parental involvement indicates that parents can play a significant role in their children's formal education (Green et al. 2007; Hoover-Dempsey et al. 2001), there is relatively little research on which methods used by parents who teach their children how to read actually contribute to improve their children's reading skills. Therefore the present paper aims at analysing the results of implementing a peer tutoring programme examining the effects of parent involvement on improving their reading comprehension skills from home. The *Llegim en Parella* programme-let's read in pairs-(Duran et al. 2009) is based on peer tutoring, both at school, among pupils, and at home, with a family member (mother, father, more expert siblings, etc.). Like other well known programmes (Read On, Topping and Hogan 1999), *Llegim en parella* is based on three central elements: peer tutoring, family involvement and reading comprehension.

Central elements of the programme

Peer tutoring

The diversity in the classrooms and the schools' need to provide all the children with an inclusive response, granting equal opportunities to all the students, urges teachers to find new management methods to ensure that all the children learn to their fullest potential, regardless of the differences that exist among them.

Schools hold all kinds of students with a wide range of educational needs coexisting in each classroom. Consequently, research is trying to find methods that take advantage of the pedagogical differences that coexist in the classroom as challenges, methods that draw from the advantage that the natural potential of diversity can offer. Peer interaction has been shown to promote meaningful learning when it is properly structured, as suggested by the cooperative learning methods (Sharan 1994), where students offer each other adjusted pedagogical help to achieve a common learning goal through teacher-structured interaction.

The use of cooperative learning is a key instructional strategy for inclusive education, as it not only recognises the differences between students as an important value but also facilitates the teacher's work and turns the existing diversity into learning opportunities (Ainscow 1991). According to Slavin (1980), cooperative learning promotes psychosocial skills and also positive interactions based on values such as cooperation, mutual support and solidarity. Peer learning has been considered a continuum which involves three different scenarios, according to the degree of symmetry and mutuality among the participants: tutoring, cooperation and collaboration (Damon and Phelps 1989). However, the conditions of cooperative learning (Johnson and Johnson 2009) could fit well into peer tutoring: positive interdependence between both members of the pair; individual accountability by the tasks derived from each role (tutor and tutee); it promotes interaction, encouraging and facilitating each other's effort; it enables the children to develop social skills, working as a team; and group processing, reflecting on the pair's learning. For these reasons, peer tutoring can be considered a cooperative learning method. Peer tutoring involves people who share a similar status, although neither of them acts as a professional teacher of the other (Topping and Ehly 1998). The pairs are organised based on an asymmetrical interaction according to the role assigned (tutor or tutee), and both share a common goal that is achieved through a teacher-organised structured framework (Duran and Monereo 2005).

Peer tutoring is extensively used in many countries and endorsed by experts, such as UNESCO, as one of the most effective instructional practices for quality education (Topping

2000). Different research reviews on peer tutoring practices show that pupils improve academically in addition to enhancing their social-emotional skills (attitude towards school matters, discipline and self-esteem), if the students are trained to learn their respective roles, the activities are structured and progress is monitored (Scruggs and Mastropieri 1998). Even for students with intellectual disabilities, Spencer and Balboni (2003) concluded that peer tutoring appears to be effective by increasing the real working time, providing individualised instruction, practice opportunities and immediate feedback on a wide variety of academic areas and contexts. It should be noted that these reviews conclude that not only do the tutees learn, through personalised assistance received from their partner, but also the tutors, who learn by teaching (Roscoe and Chi 2007).

Peer tutoring has also demonstrated its potential for the development of literacy skills (Mathes and Fuchs 1994) even for students with difficulties in this area (Masters et al. 2002). In order to structure the interaction between tutor and tutee, there are different reading techniques for pairs: Paired Reading, undoubtedly the most widely practised and researched (Topping 2006) or Pause, Prompt and Praise, known as PPP (Whendall and Colmar 1990). In the PPP technique, the tutor closely follows the tutee reading and indicates the error (when it occurs), waiting a few seconds until the tutee detects and corrects. When needed, the tutor offers a prompt or more or provides the right choice when the tutee cannot find the correct answer. The sequence always ends up with social reinforcement, like a gesture of approval or a phrase of encouragement to keep up motivation.

Family involvement

Research shows it is important to involve families in their children's education and share their development and learning with the schools as a key element for educational quality. Ma (2008) found that meaningful relationships with the school help families to feel competent in supporting their children and makes them feel fully included in the community.

In general, parents want their children to develop an intrinsic motivation towards academic learning that leads them to a positive attitude and success in doing their homework. Therefore parents are usually willing to support this process, especially when their children ask them specifically to do so (Walker et al. 2011). However, as several studies indicate, family involvement in the school work is not always easy and may encounter barriers: namely, the teachers' reticence regarding the limitations of parental teaching skills; and also the families' own doubts, who often consider themselves less competent to support their children's homework Al-Momani et al. 2010, (Muschamp et al. 2007).

It is for these reasons that education professionals should provide families with resources and strategies to promote and support their children's learning in order to create family spaces which help to encourage their children's positive attitude towards learning and expectations of school success (Martínez 2004).

A review of different studies (Wolfendale and Topping 1996) shows the positive influence of family collaboration (parents or other close relatives) on the academic performance of the students' home learning. Specifically, the majority of studies on this subject (Silinskas et al. 2010) shows that there is a relationship between active family involvement in the school and the children's improved academic performance. Furthermore, they show that the schools which promote family involvement usually improve their overall quality.

Active family involvement in home-based activities, such as teaching to read and write, become an important factor that promotes the pupils' school success (OFSTED 2001;

Sénéchal 2006), and also boosts their motivation and learning. Al-Momani et al. (2010) suggest that schools should offer guidelines for parents to teach reading so that family support can be effective. However, it is noteworthy that, according to Martínez (2004), effectiveness comes not only from the support students receive from teachers and families, but above all, from continuity and coherence between the objectives that the school and the family propose. It is for this purpose that schools are often interested in promoting and encouraging effective mechanisms to increase family participation in their children's formal education. To this end, schools strive to provide varied and tailored proposals regarding the school management in itself or the parents' involvement in teaching and learning activities (Palacios 1997; Hindman and Morrison 2011).

Some studies suggest that, within the literacy area, teachers must understand the diversity of practices that families use to teach reading to their children and recognise them (Ma 2008), and overcome the perception that parents cannot help their children learn to read at home because they lack sufficient knowledge or expertise (Conteh and Kawashima 2008). Schools can also provide support for families to act as reading tutors for their children, like the Scottish programme Read On does (Topping and Hogan 1999). Some evidence indicates that students with difficulties in reading comprehension find good support for further learning in family tutoring (Valdebenito and Duran 2010).

Reading comprehension

Over recent decades, the concept of reading comprehension has evolved from being a part of the language skill learned at school, focusing on the decoding and literal comprehension of texts, towards a holistic concept. Reading comprehension is now understood as a set of knowledge, skills and strategies built throughout the different stages of life, in different contexts and communities in which the reader takes a leading role, reflecting on and interpreting the meaning of the text (Gill 2008; OECD 2009).

Reading comprehension is a crucial skill that develops throughout life and is central to the empowerment of people. Learning it involves developing cognitive skills (decoding, vocabulary knowledge, grammar, syntax, etc.) and metacognitive skills (awareness and ability to enable word processing strategies: thinking, controlling and adjusting the reading activity to the goals of reading). For this reason it is necessary for school education to guide and encourage learning this skill to raise citizens capable of independent and strategic development in today's literate society.

In addition to the conceptualization of reading as a competence that admits different degrees of achievement and develops throughout life, OECD (2009) and other studies (Duffy 2002) suggests the importance of teaching strategies to promote its learning. Thus, there exist different strategies according to different processes such as: access and retrieval of information; information integration; development of interpretation; and reflection and evaluation of text content and structure. All of them are interspersed throughout the different phases of reading: before during and after (Collins and Smith 1980). Moreover, Block and Lacina (2009) suggest strategies such as scaffolding, modelling, thinking aloud, direct instruction or guided participation for teachers to encourage pupils to achieve a better reading comprehension and processes of auto regulation.

Research on reading comprehension has also shown that it is not enough to reserve time for "traditional" reading to promote the development of this language skill, but what affects their development is the consistent performance of teachers, helping the students understand the full text (Block et al. 2009) and providing opportunities for students to get involved in their comprehension process (Susar 2010).

These conditions for developing reading comprehension skills—pedagogical scaffolding support—can be provided through peer tutoring, where the mediator role is played by the tutor through a privileged structured interaction, one by one (Wanzek et al. 2006). This enables monitoring and adjusted support, thus fostering the tutor's and tutee's learning (Fuchs and Fuchs 2005; Juel 1996; Maheady et al. 2006).

Aims, research questions of the present study

Llegim en parella (Duran et al. 2009) is an educational programme based on peer tutoring at school between peers and at home, between a pupil and a family member, in order to improve reading comprehension. Initially, the activities, reading together and reading comprehension, are highly structured but they can progressively move towards more autonomous and creative dynamics as each pair becomes more familiar with the whole activity.

After initial training, the programme lasts 12 weeks, with 30-min sessions taking place twice a week. A variety of texts are offered, with pre-reading activities, reading together (using the PPP technique) and reading comprehension activities.

The implementation of the programme in several primary schools during the 2008–2009 course led to investigate the following specific research questions:

- (a) What are the characteristics of the families that volunteer as reading tutors for their children? Do the families of pupils with a lower reading comprehension level take part?
- (b) What are the effects of participating in the peer tutoring programme with and without family support in reading comprehension? Do all the pupils improve regardless of their role? Do all the students improve regardless of whether they receive family support or not?
- (c) Which strategies do family tutors use to improve their children's reading comprehension? Do they follow the programme's suggestions? Do they offer pedagogical support to develop the skill?

Method

Participants

The sample of our study comprised $N=303$ pupils (137 girls and 166 boys), attending four medium-sized primary schools in Catalonia, Spain. Pupils were enrolled in grades 3 (8 years old) to 6 (11 years old): 34 students from grades 3 and 4 (school A); 102 from grades 3 and 5 (school B); 128 from grades 3, 4 and 6 (school C); and 39 from grades 3 and 5 (school D). The students enrolled in a higher grade in the school acted as tutors of the students from a lower grade, who acted as tutees.

A total of 223 families volunteered to participate (61.5% mothers, 15% fathers, 17% both parents, 6.5% siblings), 73.6% of all the pupils. They all assumed the role of reading tutors for their children or siblings.

Finally, 12 teachers of the language area put the programme into practice with their respective groups.

All the participants received training on the theoretical framework and the functioning of the programme. Teachers who participated in the programme belong to a network of schools who participate in a 9-h training course to learn the programme and to prepare the family and the student training. During the development of the programme, teachers have a virtual

platform at their disposal and face-to-face follow-up sessions with other teachers and the trainees. Family training is carried out by teachers, starting with a meeting to inform families about the project. The families willing to get involved had a 2-h training session followed by the materials to use at home for each session. Before starting the programme, all the students participated in a 2-h training session to learn about the programme, the strategies and the work involved. All the training sessions included videos showing real peer tutoring situations at school and at home and opportunities to practise the PPP technique.

Measures

Reading test

A standardised reading test in Catalan, ‘Avaluació de la comprensió lectora’-ACL- (Evaluation of reading comprehension), was administered in pre and post-test bases (Català et al. 2001). It was a reading comprehension test in Catalan consisting of 7 to 10 texts, with 24–36 items each, which were categorised as follows: literal understanding, reorganisation, inferential or interpretative, and critical or judgmental. This test was reported to have KR-20 values of: .79 ACL 3; .83 ACL 4; .82 ACL 5; and .76 ACL 6.

Videotaped at-home sessions

During the administration of the programme, the at-home reading sessions of 4 families (1 per school) were videotaped. Three 30-min sessions were recorded in order to learn about interaction during the family tutoring sessions and to account for possible changes in time during the pairs’ interaction.

Evaluation questionnaire

At the end of the programme, an anonymous programme evaluation questionnaire comprising 10 mixed-type items (open-ended, likert and dichotomous) was filled in by pupils and families. The answers measured the participants’ satisfaction, the benefits or obstacles of the methodology, the learning achieved and the accomplishment of expectations.

Interviews

A sample of 12 families (3 per school) underwent semi-structured interviews on the following dimensions: peer tutoring, family involvement, family tutor role, support given by the family tutor and learning acquired by the tutee. Also, a representative sample of 4 teachers, one per school, was interviewed regarding the programme’s implementation at school: organisation, programme development, student learning, advantages and disadvantages, peer tutoring, activities and materials; and also regarding the families: reception and participation, participants, advantages and disadvantages of participation, continuity and assessment of the programme.

Analytical issues

The research is based on a combination of methodologies, as it is recommended for peer learning research (Janssen et al. 2010; Roscoe and Chi 2007). In the present study, a quasi-experimental approach to detect possible changes in the reading comprehension competence

is complemented with a qualitative approach in order to examine the process and interpret the possible elements that influence the changes. For this purpose, an analysis of the interaction was carried out during the at-home working sessions, and also from the insights offered by the participants through the questionnaires and interviews.

Therefore, this study holds a quasi-experimental design which includes an experimental multivariate analysis with no control group. This research uses no control group not only because of the ecological context (the treatment groups are part of whole courses which were involved in the innovation project), but because the aim of the research is not to compare their results with others groups working with other methodologies (there is enough research comparing cooperative learning with other systems, Johnson and Johnson 2009) and, moreover, it is assumed that a lot of interventions in the schools affect the development of reading comprehension. The pre- and post-test measures only try to see if there are some changes, understanding that part of them is due to programme participation.

In this study the independent variables are the roles of students played during the peer tutoring sessions (as tutors and tutees), time (pre-test and post-test) and the voluntary family involvement as tutors at home. The dependent variable corresponds to the reading comprehension skill.

The interpretations of the quantitative changes detected come from the analysis of family pair interaction, and from the assessment and contributions of students, teachers and families.

Data analysis

The families' profiles as well as the involvement of the families of children with a lower reading comprehension level were established through the analysis of the final evaluation questionnaires and interviews with the participants. The data was analysed with MAXQDA 10 software.

The effects of family involvement in student reading comprehension were measured by the ACL test and analysed by SPSS 18.0 software, through a multivariate analysis using the student reading comprehension as a dependent variable and the family involvement, the time and the role as the independent variables.

As regards the performance of family tutors, it was mainly revealed through video analysis with Atlas.ti.6 software. The qualitative analysis of the interactions was analysed using a coding scheme with the support of the Atlas.ti 6 software. The significant actions, verbal and non-verbal, were categorised into codes which emerged from the analysis of the interaction during each reading session. The code interrater reliability result was 0.95 with the intercodifier reliability (Hernández et al. 2006), carried out by using two different researchers who analysed 20% of the videos (three 30-min sessions) each. The codes system emerged during the analysis of the at-home sessions is presented in the results section. Qualitative reliability has been conducted by using also a diversity of methods (video, questionnaires, and interviews) and a diversity of observers (teachers, children, parents, researchers). Using a diversity of information allows us to contrast the codes emerged from different perspectives (Riba 2007).

Results

Descriptives

In this section we are presenting the experimental results of applying the aforementioned multivariate analysis and the results of the different categories emerged during the

qualitative analysis of the families' profile and the strategies they used during the programme sessions. All the children improved their reading comprehension achievement significantly, although with some differences related to the initial competence in the pre-test and their families' involvement, as will be explained further below.

Family tutor profile

The profile of the families who voluntarily participated in the programme, according to the teachers' perceptions during the interviews, was characterised by parents who:

- (a) usually get involved in the school's activities;
- (b) show interest and get involved in their children's education (in some interviews teachers describe them as "well-established families, where there are no major conflicts")—Teacher 4 (T4), Centre C (CC)—;
- (c) medium socio-cultural and educational background, although there were also families with high and low levels;
- (d) had participated in earlier editions of the programme;
- (e) have time to participate in after-school activities with their children;
- (f) are described by teachers as "the ones who need it the least"-T2, CA-, "the families of the children with more difficulties do not get as involved in this programme"-T3, CB-.

In this sense, the teachers mentioned their difficulty in engaging the participation of families whose children have more learning difficulties.

On the other hand, the family interviews results showed that the families who got involved in the programme tend to read frequently with their children at home: "I usually read with my daughter, it was easy because it's what I do, I always read with my daughter"—Parent 1 (P1), Centre A (CA)-; "In my case, my son reads a lot. Usually with his father, around half past eight, nine o'clock, they both get a book each"—P1, CC-; "Before starting *Llegim in parella*, we already read a lot at home, we would read for a little while, but not as a teacher, not with activities. Reading sessions are more structured now"—P2, CD-.

It appears that families participating in the programme frequently read with their children at home, which may explain why the families with this profile easily agree to engage themselves in the programme.

Family involvement and children with high and low reading comprehension levels

Table 1 illustrates the children's initial reading comprehension level, high or low, and family involvement at home. In order to focus on the progress not only of the total sample of participants, but also of those with an above- or below-average reading comprehension level

Table 1 Family involvement and children with very high or low reading comprehension achievement

ACL pre-test results	Pupils		Family involvement			
			YES		NO	
	N	% (total sample)	N	%	N	%
Pupils with high reading comprehension achievement	37	12.21	37	100	0	0
Pupils with low reading comprehension achievement	41	13.53	19	46.34	22	53.66

(compared to the ACL pre-test assessment), we divided the total test score (100 points) in four equal parts, and considered scores above 75 high and scores below 25 low.

The reading comprehension pre-test results indicated that, out of a total of 303 participants, 37 pupils scored above the average, and 100% of their families participated as reading tutors at home. In contrast, 41 students scored below the average, 19 of them (46%) received support from their families at home and 22 did not. The results showed some evidence that the percentage of family involvement obtained by students who scored above the average was higher than their peers who showed greater needs of support in the reading comprehension area, thus confirming the difficulty expressed by the teachers regarding the involvement of the families of students with greater learning difficulties and needs.

Reading comprehension achievement related to family involvement, peer tutoring role and time factors

In order to detect the effect of the different factors on the student reading comprehension performance, a multivariable analysis was carried out, using reading comprehension as a dependent variable and the family involvement, the time and the role as independent variables. According to the results in Table 2, significant differences were found in the dependent variable: $F(7,303)=15.47, p<0.001, \eta^2=.15$.

Regarding the independent variable, significant differences were found $F(1,303)=60.21, p<.001, \eta^2=.09$ in favour of family implication ($M=60.42$; $SD=20.83$), compared to the students without family tutoring ($M=45.42$; $SD=21.55$).

Also, some differences ($F(1,303)=23.88, p<.001, \eta^2=.04$), with less magnitude of effect, were found according to the time variable in the post-test results ($M=61.47$; $SD=22.11$) compared to the pre-test ($M=51.45$; $SD=20.79$). Finally, relating to the role factor, no significant differences were found: $F(1,303)=.76, p=.384, \eta^2=.00$; significant interactions (intercept) of the different factors are not appreciated among the analysis of the differences in reading comprehension.

A specific analysis of the intra-factors differences indicates significant differences according to the family involvement $F(1,303)=18.01, p<.001, \eta^2=.11$. Also, significant differences are observed in relation with the students' role $F(1,303)=3.22, p=.041, \eta^2=.02$, with the best results for the tutors, although with less size effect. Nevertheless, a significant interaction (intercept) between both factors is not found $F(1,303)=.84, p=.432, \eta^2=.01$ (see Table 2).

Table 2 Reading comprehension performance related to involvement, role and time factors

Family involvement	Role	N	Time			
			Pre-test		Post-test	
			M	SD	M	SD
Yes	Tutor	123	58.30	19.46	66.21	20.36
	Tutee	100	51.07	20.01	65.27	20.31
	Total	223	55.06	19.99	65.79	20.30
No	Tutor	31	41.91	16.96	48.01	21.26
	Tutee	49	41.07	21.49	50.34	23.63
	Total	80	41.40	19.75	49.47	22.63

Analysing the effects according to the time factor, some significant differences are appreciated only in the involvement factor, in the pre-test $F(1,303)=25.21$, $p<.001$, $\eta^2=.08$ and also in the post-test $F(1,303)=35.17$, $p<.001$, $\eta^2=.11$. Both significant results in favour of family involvement, although, as can be appreciated, the magnitude of the size effect is bigger in the post-test.

The results showed the positive effect of family involvement to improve the reading comprehension competence. In that sense, the qualitative data emerged from the questionnaires analysis regarding family involvement showed that all the pupils were satisfied with the support they received from mothers, fathers or siblings. They appreciated the help they received as regards understanding, expanding their vocabulary, reading faster, developing strategies to accomplish the task, and also sharing a unique moment with their family tutors.

Also, the families mentioned an improvement of their children's reading comprehension with the programme and the family tutoring in relation to five dimensions:

- reading and comprehension: "It's been useful for my daughter to make her stop and think about every word, understanding the meaning and not only focusing on reading faster to finish quickly" (P2, CB);
- new knowledge or content: "I could spend some time with my son, and also learn new knowledge, not only for him, but for both of us" (P3, CA);
- reading intonation: "My son was able to develop other things like intonation, because he had to read with his mum or dad, he has done quite well" (P1, CD);
- reading motivation: "He reads differently now, because now he takes a book and reads it. Taking a book and studying used to be a big deal for him" (P1, CB);
- progress in finding information and elaborating on it: "The girl loves reading and finding information, everything she sees, she absorbs. What I see is she has learned to search for information, to do the work all week, she was waiting for it. I gave her some ideas but I see my daughter loves looking for information" (P3, CB).

The reading comprehension improvement expressed by the students participating, but especially for those who had family involvement, is consistent with the results obtained with the qualitative analysis of the students' questionnaires. The perceptions expressed by the students during the final questionnaires revealed that they felt they acquired new learning, which had been classified into 7 dimensions referring to:

- reading comprehension: "Because you read it, ask questions and re-read, so in the end you get it" (Student -S44-, Centre B -CB-), or "while I'm explaining something, I'm learning it better" (S77, CC);
- language improvement: "I learned to read and write in Catalan" (S11, CB);
- writing: "I used to write with mistakes and now I don't" (S18, CA);
- pronunciation, fluency and reading speed: "I learned to pronounce better and read faster" (A10, CD), "he taught me to stop in comas and full stops and to read better" (S26, CA), "I learned to read better and intonate better when reading" (S92, CC);
- vocabulary: "Learning new words" (S54, CB), "your tutor will correct you and then you don't make the same mistakes, sometimes there'll be words you don't know and your tutor will explain them to you" (S2, CD);
- new skills: "By preparing the reading I learned new things" (S103, CC), "I learned from animals and other things" (S25, CD);
- transversal learning: "After all I've learned, I will do better in all the other subjects" (S34, CA).

Qualitative analysis of the process during the at-home family sessions

Family tutor interventions during the at-home sessions

The analysis of the interaction during the family sessions focuses on the tutor’s interventions (3 mothers and 1 father, one for each school) for 3 sessions. The results in Fig. 1 revealed that the tutors provide the most pedagogical support in two distinct moments of the session: their child’s individual reading and the reading comprehension activity.

The results of the most significant interventions observed during the 12 sessions analysed, as has been explained in the method section, are categorised into each of the set of activities that structure the programme: pre-reading, reading, and reading comprehension. The scores shown next to the categories emerged from the total number of interventions occurred and its percentage within the activity analysed. Sometimes a quote is included for better understanding.

(a) Pre-reading activity

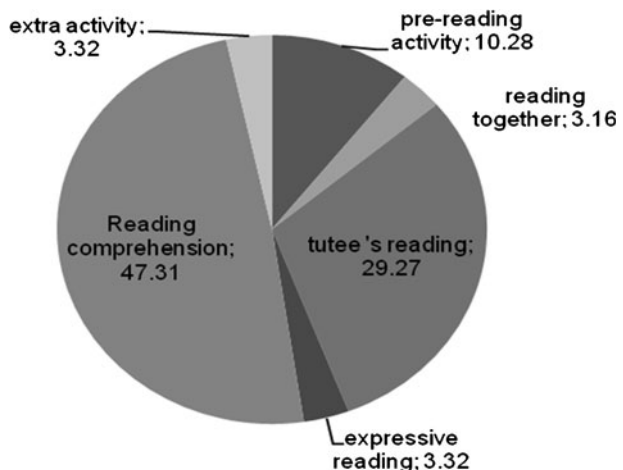
The families focus their interventions on three aspects: organising the activity (40: 61.53%), using comments like: “First you must read this” -Family1 (F1), Centre B (CB)-; praising the tutees’ answers (19: 29.23%), saying “Very well” -F3, CC-; and encouraging them to think beyond what is required (6: 9.24%), asking, for instance, “What else do you remember?” -F2, CB-. Adults often keep control of the activity, starting by reading the statements, asking questions and structuring the time.

(b) Reading Activities

Family tutor’s reading. Initially all the tutors read the text aloud individually, as suggested in the programme. During the first meeting, only one family did not do so. During the family tutor’s reading, the tutees tend to follow closely their father’s or mother’s reading.

- Reading together. In this activity, parents should read a little bit faster than their children to act as a reading model. The results showed that adults often started this activity by asking (8: 40%), for example, “shall we start reading?” -F4, CD-. Most family pairs negotiated beforehand at what point during the reading the tutee would start reading (6, 30%). An example of this is shown by family 2 during the first

Fig. 1 Frequency of tutor interventions depending on the different activities



session. The mother indicated that they would start reading together and the child responded, “Okay, but from where do I start reading?” And the mother answered, “[you start] at [the mother says the specific word aloud] ‘house’?”, to which the child responds, “OK.” -F2, CB-

- During the activity, the family tutors tend to moderate their reading speed to facilitate the tutee’s reading. When the parents perceived that the child was not able to follow, they read a little bit slower or made a brief pause. When the tutees made a mistake, they usually realised and corrected themselves, repeating the mistaken word correctly without any support from the family tutor (6: 30%).
- Tutee’s reading. The analysis of the videos showed that the families used the PPP technique. All the family tutors made a pause when the tutee made an error (77: 41.62%). The families tended to touch their child’s shoulder and sometimes used verbal language, saying “no” -F3, CC-, or “look” -F4, CD-, for example. Sometimes the parents reported the error pointing at the text with their fingers. The results showed that when the tutors made a pause, the children often recognised the error and corrected it themselves. The tutors were alert and if they saw that the tutees were aware of their error, they did not pause the reading and let the children correct themselves (30: 16.22%). When the children could not find their mistakes or if the family tutors made a pause and the tutees did not know the answer, the parents often gave a prompt (22: 11.89%). The family tutors used two kinds of prompts: support related to the location of the error within the text, “it is behind the word ‘telephone’”, -F2, CB-; or indicating a morphosyntactic aspect of the word, “see the ending of the word? It’s masculine” -F4, CD-. The most commonly used strategy during the reading was praising the correction made or the reading (56: 30.27%). The parents often used oral language by saying, “well done, you read that right...”, but sometimes they also used non-verbal language, nodding their head or smiling, for instance.
- Expressive reading. During this activity, the tutees were usually able to detect what they did wrong and self-correct without the family tutor’s indication (12: 42.86%). The family observed the tutee’s reading with attention and often praised their corrections (9: 57.14%) saying for instance, “now you got it right” -F1, CA- or “very well, you did very well” -F2, CB-.

(c) Reading comprehension activity.

Table 3 presents the results of parental intervention during the reading comprehension activity. Families shared a relaxed time and sometimes started conversations that went beyond the questions suggested in the activity. It was one of the parts of the session where there was more interaction and interventions between family tutors and tutees.

During this task, the parents gave their children support and guiding and also kept the timing and kept their children focused, saying for example: “Now let’s answer the questions” -F2, CB-. Usually, the tutors were the ones who read the questions and also helped to keep the tutee concentrated on the work and undistracted: “Come on, what’s next?” -F1, CA-. The family tutors used different strategies to help their children understand the questions, repeating part of the sentence or the most significant words, or paraphrasing the question. For instance, with a question about summarising the story read in one sentence, one mother said to her daughter: “as if you gave it a title” -F3, CC-. When the tutees answered correctly, the parents often congratulated them verbally, “okay” or “good.” When the children did not know what to say or did it wrong, the family tutors would ask them more questions in order to prompt the possible answer. The father of family 3 tried to make her daughter understand that the answer she had

Table 3 Family tutor's interventions during the reading comprehension activities

Family tutor's interventions	Frequencies
Orientation	105 (35.1%)
Reads the question	56 (53.4%)
Focuses the tutee's attention	35 (33.3%)
Repeats part of the question	14 (13.3%)
Comprehension	20 (6.7%)
Paraphrases the question to make it understandable	12 (60%)
Repeats the question aloud	8 (40%)
Strategies to find the answer	80 (26.8%)
Encourages to think by asking more questions	32 (40%)
Says the answer or part of it	20 (25%)
Explains the answer	18 (22.5%)
Points at the answer in the text	10 (12.5%)
Praise	94 (31.4%)
Verbally	81 (86.1%)
No verbally	13 (13.9%)

given was wrong and reminded her about a project she had done at school related to the text's content, the sun. The question referred to what happens to the light at night and the girl responded: "You wake up". The father said: "But ... what about the light in the night time? Sunlight. Where does it go at night?" The girl responded: "To the other side of the planet". The father answered: "Don't you remember you did the project?" Given this prompt, the daughter responded correctly and the father agreed by saying, "okay"-F3, CC-.

Sometimes, the family tutors gave the correct answer but often, when that happened, they usually gave an explanation about the answer to ensure that the tutee understood correctly. To illustrate this, we will refer to a situation with family 3, during session 2. The girl had to find two words that rhymed, but she made a mistake and could not find the correct answer. The father intervened and told her two words that rhyme and explained why: "Don't both of them end with the same letter?" The daughter answered "yes", and then she repeated the two words correctly. The father said, "That means they rhyme, right?" Next, he gave an example to make sure the girl had understood the concept: "City and foot, do they rhyme?" And laughing, the daughter said no -F3, CC-. Rarely did the family tutors point out the right answer directly in the text to help the tutee to find it easily.

The family tutors tended to praise their children's correct answers, mainly with verbal language, using expressions such as "yes", "very good", "good", "okay", "I agree", "of course", "right" or sometimes they hummed in approval "umm-hmm", but also repeating the correct answer after the tutee. Non-verbal actions were often a smile or a nod of their head.

(d) Extra reading comprehension activity.

In this extra activity, the family tutors would read the questions only occasionally (6: 28.58%); most of the time their children did it, showing more control. When the tutees answered, the parents would ask questions to delve into their responses (9: 42.85%), saying for instance: "What more can you say?" -F2, CB-.

To sum up, the results showed that the families followed the structure and the instructions suggested by the programme. The tutors' actions seemed to follow the recommended PPP technique. They used pauses extensively (77: 41.62%), prompts (though in smaller

proportion, 22: 11.89%), and praise (56: 30.27%). The results showed that the tutors selected what errors to point out, and in many cases (30: 16.22%) they decided not to intervene. Although all the families followed the activities' structure proposed by the programme, there was inter and intra family diversity. The pairs were flexible and made adjustments during the activity related to the following aspects: the time spent in making decisions about who read the questions, whether they wrote down the answers or not or if they carried on with the extra comprehension activities. The data showed a significant decrease in the duration of the sessions as the families became more experienced, as seen in the family 1, who spent 21 min on the first session of the programme, and 14 on the last.

Discussion

At-home family tutoring reading comprehension activities

After the initial training and learning about the structured interaction format, the families are able to act as reading tutors for their children, in line with Hook and DuPaul (1999) or Resetar et al. (2006). With basic training, the families have been able to follow the programme's recommendations. Perhaps the key is not so much the initial training the families received, but the confidence promoted by the teachers and the school regarding the family's mediating capacity—or teaching skills—towards the academic content, traditionally monopolised by the school.

Probably the highly structured format of the session -as a key condition for the success of peer tutoring (Cohen et al. 1982)- is more responsible for improving reading comprehension skills than the characteristics of the structure chosen themselves. As recognised by families and teachers, the detailed structure of the session provides confidence to the pairs, especially the family tutor. In this sense, despite their potential (Burns 2006), the effectiveness of the reading technique chosen in this programme (PPP) could be mostly due to its potential to organise the activity between the tutor and the tutee. Accordingly, there are families who are able to adjust their actions during the session, and also using differentiated actions. Thus, it might also be appropriate to suggest different pair-reading techniques that would adjust to their needs or styles, such as Paired Reading (2006).

Child reading comprehension performance and family tutoring

Families acting as reading tutors for their children, complementing the peer tutoring received at school, have been effective for improving their children's reading comprehension. The results showed that the students who received family support improved in some cases more than those who did not. Rather than an effect due to the increased hours of the tutoring sessions, assuming that the improvement relates to the amount of support provided, research has showed that more tutoring hours did not produce greater effects (Goudey 2009; Topping 2009). Probably, as noted by Martínez (2004), the effect relates to the continuity of values that pupils perceive between school and family.

It seems that if family involvement is beneficial for academic improvement in reading comprehension, most of the families involved are those of students who had better achievement. If that tendency, evidenced in the results of this study, does not change and the families involved are those of students with higher reading skills, the programme presented could be a risk because it would encourage further differences among pupils. To prevent this effect, which contradicts the aims of the intervention, we believe that schools should make a

creative effort to publicise the programme and its benefits for all the families, but especially for those of students who need most help. Different mechanisms should be combined (letters, personal invitations, posters, articles in the school newsletter or local media, etc.), with support elements (for example, either the students should encourage their parents to participate; or council social workers should visit families who do not get ordinary information as easily; or else the parents themselves should spread the word to other parents).

Limitations

The present study has some limitations, and recognising them should help refine future research efforts. It is important to address generalizability. The findings are limited to this research context, Catalonia, where diversity in the classrooms and the rate of students per class are high; also a country where external evaluations, like PISA, suggest the need to find ways to improve basic skills, like reading comprehension.

Moreover there is a predisposition to enhance family involvement within the school or the school tasks, but there are also difficulties regarding how to do it. The *Llegim en parella* programme tries to meet all these needs in order to guide how the contents are transferred from trainers to parents and children, as suggested by Steensel et al. (2011): These authors, after analysing the results of thirty recent effect studies (1990–2010), highlight that if training is not optimal, implementation in the homes likely suffers. Finally, it should be noted that it was difficult to involve the families of children with low reading comprehension achievement, which may have influenced the process results.

Despite the abovementioned limitations taking into consideration the characteristics of this research, this study offers a better understanding of the effects of family involvement and also some of the interventions that may influence the improvement of children reading comprehension.

Conclusions

The results of the present study show that families, by getting involved in the peer tutoring school programme, can act as an effective reading tutor of their children by learning a simple set of instructions. Although all the children participating in the programme improved their reading comprehension, regardless of their role (tutor or tutee) or having family support or not, the results suggest that family involvement is the variable which explains best the improvement in reading comprehension, therefore, it is the key influencing factor. Although it is important to note that it was difficult to encourage families whose children had more difficulties in reading comprehension. Thus, schools should find ways to involve these families.

The study also indicates that the programme seems to be effective in helping children and families to organise the interactions and their ability to teach. The families followed the instructions suggested, but also made adjustments as time went by. All the families analysed offered pedagogical support which could contribute to their children's learning.

We would like to think that works like this one can contribute to help school communities to feel confident to share the ability to teach each other and to learn by teaching with students, parents and teachers.

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Current themes of research:

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Current themes of research:

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