WCES 2012

The effects of a peer tutoring programme to improve the reading comprehension competence involving primary students at school and their families at home

Sílvia Blanch [a] *, David Duran [a], Marta Flores [a], Vanessa Valdebenito [a]

[a]*Faculty of Educational Sciences, Universitat Autònoma de Barcelona, Bellaterra, 08193, Catalunya, Spain.*

Abstract

This paper presents on the effects of an educational programme involving peer tutoring at school and family tutoring at home on child reading comprehension achievement. We drew upon a sample of 303 students and 223 family tutors. The methodology combined a quasi-experimental design and a qualitative analysis of texts. 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 monitored. 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.

Keywords: Peer tutoring, Reading comprehension, Family involvement, Literacy skills;

1. Introduction

This paper reports on data from the effects of implementing a peer tutoring programme for improving reading comprehension skills. The *Llegim en Parella* programme—let's read in pairs—(Duran et al., 2009) is based on peer tutoring, both at school—between pairs of pupils—and at home, with a family member (mother, father, more expert siblings, etc.). *Llegim en parella* is based on three central elements: reading comprehension, peer tutoring and family involvement, like some similar programmes (Read On, Topping & Hogan, 1999).

1.1. Reading comprehension

Reading comprehension is a crucial skill that develops throughout life and is central to school success. Reading comprehension 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 the learning of this skill to raise citizens capable of independent and strategic development in today's literate world.

---

* Sílvia Blanch. Tel.: +0-3493-581-3194
  E-mail address: silvia.blanch@uab.cat

In addition to conceptualizing reading as a competence, which admits different degrees of achievement and also develops throughout your life, OECD (2009) suggest the importance of teaching strategies to promote its learning. Moreover, Block & Lacina (2009) suggest strategies such us scaffolding, modelling, thinking aloud, direct instruction or guided participation to encourage pupils to achieve better reading comprehension and the processes of self-regulation.

1.2. Peer Tutoring

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. Reviews on research about peer tutoring practices show that pupils improve academically in addition to enhancing their socio-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 & Mastropieri, 1998). It should be noted that these reviews conclude that not only do the tutees learn—through personalised assistance received from their partner—, but the tutors do too, through teaching (Roscoe & Chi, 2007). Peer tutoring has also demonstrated its potential for the development of literacy skills, even for students with difficulties in this area (Masters, Fuchs & Fuchs, 2002). In order to structure the interaction between tutor and tutee, there are different reading techniques for pairs, such as paired reading, (Topping, 2006), or Pause, Prompt and Praise, known as PPP (Whendall & Colmar, 1990).

1.3. Family involvement

Active family involvement in home-based activities, such as teaching to read and write, become an important factor that promotes the pupils' school success, 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 their teachers and their families, but above all, from continuity and coherence between the objectives that the school and the family propose. To this end, schools strive to provide varied and tailored proposals regarding how the school manages itself and the involvement of the parents in teaching and learning activities.

2. Aims and research questions of the present study

a) What are the effects on reading comprehension of participating in the peer tutoring programme with and without family support? Do all the pupils improve regardless of their role? Do all the students improve regardless of whether they receive family support or not?

b) 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 reading skills?

3. Methodology

This research combines methodologies in order to detect changes, to examine the process and interpret the possible elements that influence the changes. Thus a quasi-experimental approach using quantitative measures was designed to detect changes in the reading comprehension competence. These measures were administered on a pre- and post-test basis before and after the intervention. A qualitative study complemented the data analysis exploring the processes of peer tutoring. That analysis focused on the nature and type of tutoring undertaken by pupils and families. In addition, background variables were collected by means of students and parents questionnaires, and also semi-structured interviews were conducted with class teachers and a randomly selected sub-sample of parents. An analysis of the family tutoring interactions was also monitored.

3.1. Sample

The sample comprised N = 303 pupils (137 girls and 166 boys), attending 4 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 higher grades in the school acted as tutors of the students from lower grades, who were the 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 undertook 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.

3.2. Measures

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, Comes & Remon, 2001). This test was reported to have KR-20 values of: .79 ACL 3; .83 ACL 4; .82 ACL 5; and .76 ACL 6.

3.2.1. Videotaped at-home sessions

Three 30-minute sessions were recorded during the at-home reading sessions of 4 families (1 per school).

3.2.2. 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.

3.2.3. Interviews

A sample of 12 families (3 per school) underwent semi-structured interviews. Also, a representative sample of 4 teachers, one per school, was interviewed regarding the programme's implementation at the school.

3.2.4. Data analysis

The effects of family involvement in student reading comprehension were measured by the ACL test and analysed by the SPSS 18.0 software, through a multivariate analysis using the student's reading comprehension as a dependent variable and the family's involvement, the time and the role as the independent variables. The analysis of the final evaluation questionnaires and interviews with the participants was analysed with the MAXQDA 10 software. The qualitative analysis of the interactions was analysed using a coding scheme with the support of the Atlas.ti 6 software.

4. Results

The experimental results of applying the multivariate analysis and the results of the different categories emerged during the qualitative analysis of the families' strategies used during the programme sessions show that 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.

4.1. 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's reading comprehension performance, a multivariable analysis was carried out, using reading comprehension as a dependent variable and family involvement, time and role as independent variables. According to the results in table 2, significant differences were found in the dependent variable: $F_{(7,303)} = 15.47$, $p < .001$, $\eta 2 = .15$.

Regarding the independent variable, significant differences were found F (1,303) = 60.21, p < .001, ŋ2 = .09 in favour of family implication (M= 60.42; SD = 20.83), in comparison to the students with no family tutoring (M= 45.42; SD = 21.55). Also, some differences (F (1,303) = 23.88, p < .001, ŋ2 = .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, ŋ2 = .00; neither have significant interactions (intercept) of the different factors been perceived in the analysis of the differences in reading comprehension. A specific analysis of the intra-factors differences indicates significant differences according to the family's involvement F (1,303) = 18.01, p < .001, ŋ2 = .11. Also, significant differences are observed in relation with the students' role F (1,303) = 3.22, p = .041, ŋ2 = .02, with the best results being for the tutors, although with less size effect. Nevertheless, no significant interaction (intercept) between both factors has been found F (1,303) = .84, p = .432, ŋ2 = .01 (see Table 1).

Table 1. Reading comprehension performance related to involvement, role and time factors

| Family involvement | Role | N | Time | | | |
| | | | Pretest | | Postest | |
			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

As regards the analysis of the effects according to the time factor, some significant differences have only been perceived in the involvement factor, in the pre-test F (1,303) = 25.21, p < .001, ŋ2 = .08 and also in the post-test F (1,303) = 35.17, p < .001, ŋ2 = .11. Both significant results favour family involvement; however, as can be seen, the magnitude of the size effect is bigger in the post-test. The results showed the positive effect of family involvement for improving the reading comprehension competence. In that sense, the qualitative data emerged from analysing the questionnaires 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 close time with their family tutors.

4.2. Family tutor's 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 showed that the families followed the structure and the instructions suggested by the programme. The frequency of tutor's interventions depended on the different activities being developed: pre-reading activity (14: 10.28%); reading activities (reading together—20: 3.16%—, tutee's individual reading—185: 29.27%—and expressive reading—21: 3.32%); reading comprehension activity (299: 47.31%); and complementary activity (21: 3.32%). The results revealed that the tutors provided most pedagogical supports at two distinct moments in the session: their child's individual reading and during the reading comprehension activity (see Table 2). During the child's individual reading the tutors' actions seemed to follow the recommended PPP technique. They used pauses extensively (77: 41.62%), prompts (though in a 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.

Table 2. 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%)

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 additional comprehension activities. The data showed a significant decrease in the length of the sessions as the families became more experienced, as seen in the family 1, who spent 21 minutes on the first session of the programme, and 14 on the last.

5. Conclusions

All the children participating in the programme improved their reading comprehension, regardless of their role (tutor or tutee) or their having family support or not. The results suggest that family involvement is the variable which best explains the improvement in reading comprehension. Therefore, it is the key influencing factor. The results of the present study show that families, by getting involved in the peer tutoring school programme, can act as effective reading tutors for their children by learning a simple set of instructions. However, it is important to note that it was difficult to encourage families whose children had more difficulties in reading comprehension. Thus, it is a challenge for schools to find ways to involve those 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 they also made adjustments as the programme progressed. All the families analysed offered pedagogical support which could contribute to their children's learning. We would like to think that initiatives like this one can contribute to help school communities to feel confident in sharing the ability to teach each other, and to learn through the process of teaching whether you are student, parent or teacher.

References

Al-Momani, I. A., Ihmeideh, F. M. & Naba'h, A. M. A. (2010). Teaching reading in the early years: Exploring home and kindergarten relationships. *Early Child Development and Care, 180*(6), 767-785.

Block, C. C. & Lacina, J. (2009). Comprehension instruction in kindergarten through grade three. In S. Israel & G. Duffy (Eds.), *Handbook of research on reading comprehension* (pp. 494–509). New York: Routledge.

Català, G., Comes, G. & Renom, J. (2001). *Evaluación de la comprensión lectora*. Barcelona: Graó.

Duran, D., Blanch, S., Corcelles, M., Flores, M., Merino, E., Oller, M. & Vidal, A. (2009). *Llegim en parella. Tutoria entre iguals, a l'aula i a casa, per a la millora de la competència lectora*. Barcelona: ICE de la Universitat Autònoma de Barcelona.

Green, C. L., Walker, J. M. T., Hoover-Dempsey, K. V. & Sandler, H. M. (2007). Parents' motivations for involvement in children's education: an empirical test of a theoretical model of parental involvement. *Journal of Educational Psychology*, *99*, 535-544.

OECD (2009). *Assessment Framework. Key competencies in reading, mathematics and science*. Paris: OECD. Resource document. OECD. http://www.oecd.org/dataoecd/11/40/44455820.pdf. Accessed 1 February 2011.

Martínez, R. (2004). *Familia y educación. Fundamentos teóricos y metodológicos.* Oviedo: Universidad de Oviedo.

Masters, K., Fuchs, D. & Fuchs, L. (2002). Using peer tutoring to prevent early reading failure. In J. S. Thousand, R. A. Villa & A. I. Nevin (Eds.), *Creativity and collaborative learning: A practical guide to empowering students and teachers* (235-246). Baltimore: Paul H. Brookes.

Roscoe, R. D. & Chi, M. T. H. (2007). Understanding tutor learning: Knowledge-building and knowledge-telling in peer tutors' explanations and questions. *Review of Educational Research, 77*(4), 534-574.

Scruggs, T. E. & Mastropieri, M. A. (1998). Tutoring and students with special needs. In S. Ehly (Ed.), *Peer-assisted learning.* (pp. 165-182). Mahwah, NJ US: Lawrence Erlbaum Associates Publishers.

Topping, K. (2006). Paired Reading: Impact of a tutoring method on reading accuracy, comprehension and fluency. In: T. Rasinski, C. Blachowicz, & K. Lems (Eds.), *Fluency Instruction: Research-based best practices* (pp. 173-191). New York: The Guilford Press.

Topping, K. & Hogan, J. (1999). *Read On: Paired reading and thinking video resource pack*. London: BP Educational Services.

Whendall, K. & Colmar, S. (1990). Peer tutoring in low-progress readers using pause, prompt and praise. In H. Foot, M. Morgan & R. Shute (Eds.), *Children helping children* (pp. 117-134). Chichester: John Wiley and Sons.