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READING ALOUD AND EQUITY

LECTURA EN V0Z ALTA Y EQUIDAD

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Abstract: **Introduction:** Is it possible to act on the predictive power, with respect to school success, of initial skills to restore equity in classrooms? The national project Leggimi ancora (by Giunti, University of Perugia and LaAV) aimed at experimenting with reading aloud by teacher as a daily and intensive practice at school. The purpose was to promote the empowerment of cognitive and emotional domains and to reduce learning imbalances. **Methods:** The sample consisted of students from primary schools in Turin, Modena and Lecce. In each school, experimental classes were involved that followed a defined protocol for up to 100 consecutive days of reading aloud. Experimental classes were compared to control classes that only carried out ex ante and ex post measurements, continuing with the traditional teaching activity. Both groups were subjected to standardised, individually administered instruments (CAS; WISC IV) in order to investigate cognitive, language and reading comprehension skills. Statistical analysis was conducted with MANOVA. **Results:** The results of the experimental classes, compared to the control ones, were significantly different, showing an increase in general cognitive functioning and linguistic and verbal comprehension skills. **Conclusions and discussion:** The analysis of the data made it possible to highlight the numerous benefits of systematic reading aloud in the classroom by a teacher, prompting reflection on a possible rethink of traditional teaching.

Keywords: reading; reading aloud; equity; educational research; school.

Resumen: **Introducción:** ¿Es posible actuar sobre el poder predictivo, con respecto al éxito escolar, de las habilidades iniciales para restaurar la equidad en las aulas? El proyecto nacional Leggimi ancora (de Giunti, la Universidad de Perugia y LaAV) tenía como objetivo experimentar con la lectura en voz alta por parte del profesor como práctica diaria e intensiva en la escuela. El propósito era promover la potenciación de los dominios cognitivo y emocional y reducir los desequilibrios en el aprendizaje. **Métodos:** La muestra estaba formada por alumnos de escuelas primarias de Turín, Módena y Lecce. En cada escuela, participaron clases experimentales que siguieron un protocolo definido durante un máximo de 100 días consecutivos de lectura en voz alta. Las clases experimentales se compararon con clases de control que solo realizaron mediciones ex ante y ex post, continuando con la actividad docente tradicional. Ambos grupos fueron sometidos a instrumentos estandarizados y administrados individualmente (CAS; WISC IV) para investigar las habilidades cognitivas, lingüísticas y de comprensión lectora. El análisis estadístico se realizó con MANOVA. **Resultados:** Los resultados de las clases experimentales, en comparación con las de control, fueron significativamente diferentes, mostrando un aumento en el funcionamiento cognitivo general y en las habilidades de comprensión lingüística y verbal. **Conclusiones y discusión:** El análisis de los datos permitió poner de manifiesto los numerosos beneficios de la lectura sistemática en voz alta en el aula por parte de un profesor, incitando a la reflexión sobre un posible replanteamiento de la enseñanza tradicional.

Palabras clave: lectura; lectura en voz alta; equidad; investigación educativa; escuela.

1. INTRODUCTION

The Reading aloud represents a highly effective practice that can act on initial sociocultural differences in an equitable manner (Scierri *et al*., 2018; Batini, 2019), increasing the likelihood of academic and educational success for all students, with exceptionally large long-term effects.

Even before technically learning to read, children learn to read by listening. When stories are read to them, they develop, progressively and through precise steps (which also correspond to types of books), the pleasure of accompanying with their imagination the fantastic stories they find themselves listening to.

In the process of listening to stories, children begin their own linguistic and visual development. Early childhood and infancy are, therefore, fertile ages for the construction of a positive relationship between book and child, but above all for favoring the subsequent learning of independent reading by the latter.

For a child, therefore, the presence of books in the home that encourages contact, first indirectly through parents, and then directly, is certainly a stimulus to reading and a predictor of his or her educational success, as demonstrated by a European study in 2005 (Brunello *et al*., 2015). However, in 24.4 % of Italian households, i.e. in 6.2 million households, we do not arrive at a «library» composed of more than 10 books. Only 7.3 % of households have a library of more than 400 books: slightly more or slightly less than ten linear meters.

Each parent is a potential active promoter of a child's emergent literacy skill development to the extent that they are able to enact family reading practices and offer culturally

appropriate stimuli (Taylor *et al*., 2016). Unfortunately, however, the average household income, in many cases, determines the range and abundance of books available in households and the relative involvement in reading practice (Wambiri *et al*., 2012).

The starting conditions of a child's life thus seem to have decisive and lasting effects on individual well-being (OECD, 2011; Retelsdorf, Köller & Möller, 2011). In fact, very high incidences of early dropouts are found where the educational and/or professional level of the parents is lower (Cunha & Heckman, 2007).

In this unfair starting point, which highlights the possible academic disparities between high-income and low-income children, the introduction of reading aloud in school constitutes an action of «cognitive democracy» that can respond to the social differences that some children carry on their shoulders (International Literacy Association, 2018).

A study (Hemphill *et al*., 2015) conducted with a sample of secondary students who grew up in poverty backgrounds highlights how a read aloud intervention can improve a range of performances, such as word decoding, comprehension, speed, and reading accuracy. This evidence recognizes that schools play a critical role in preventing disadvantage from crystallizing. It represents the only environment where it is possible to reach each and every one, capable of mitigating the negative effects of socio-economic imbalance.

The «Leggimi ancora» project, implemented by Giunti Scuola Editore, in partnership with the University of Perugia and the national association of volunteers (LaAV), moved in this direction. The project action aimed to support and legitimize the achievement and empowerment of fundamental life skills and school success (Scierri, Bartolucci & Batini, 2018) in pre-school and early education (Albright & Ariail, 2005) through reading aloud.

2. METHODS

2.1. Design

The project proposed a rigorous and scientific approach to reading aloud. The basis of the research was the systematic nature and temporal continuity of the practice, as well as the significant portion of time devoted to it on a daily basis, which is fundamental to obtain all the benefits, for everyone.

The method used was that of classical quasi-experimental research, whereby ex ante and ex post measurements were carried out both on an experimental sample and on a control group. The target group was primary school students. While the control group continued with regular teaching, the experimental group underwent reading aloud training (15 minutes to one hour) for 100 consecutive days.

The quasi-experimental nature of the research design was determined by the fact that, unlike in an experimental design, the groups were not created by extracting children and young people according to a predetermined sampling plan, but rather by working on class groups that were already pre-established and therefore not always equivalent.

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Contrary to what one might think, this type of research design is not weaker but, on the contrary, proves to be more linked to the objective. It should be borne in mind, in fact, that quasi-experimental research is typical of research in the educational-scholastic field, where subjects are usually placed in groups. In this way, the research was able to take into account the situations, interactions and modes of use that generally occur in a classroom.

The research consisted of four phases. The first phase was dedicated to teacher training. Teachers were provided with a reading protocol, operational tools, such as progressive bibliographies, divided by class, methodological references for conducting the experiment on reading aloud in class.The second and fourth phases coincided with ex-ante and ex-post surveys both in the experimental classes and in the control classes by means of special standardised instruments and qualitative devices. The third phase involved concrete experimentation, i.e. the narrative training of reading aloud by teachers in the classroom.

2.2. Participants

The sample identified for this project consisted of schools belonging to three Italian provinces: Turin, Modena and Lecce. Classes were chosen that could represent the whole school cycle, from the first class of primary schools to the third class of secondary schools.

The total was 74 classes and 1500 pupils. Specifically, the institutes involved were

- two in the Turin area (Kennedy Primary School and Dewey Primary School);
- six in the Modena area (Cittadella Primary School, Rodari Primary School, Don Milani Primary School, Leopardi Primary School and Mattarella Secondary School);
- four in the territory and province of Lecce (Mogadiscio Primary School, Fatima Primary School, Primary School of Calimera and Caprarica and Mogadiscio Secondary School).

The schools were from different backgrounds with different ESCS (Economic, Social and Cultural Status) indicators.

2.3. Instruments

The results of the experiment were monitored through the administration of a series of standardised instruments: the Cognitive Assessment System (CAS2) and the Wechsler Intelligence Scale for Children-Forth Edition (WISC IV).

The Cognitive Assessment System-Second Edition (CAS2) is a battery of tests that investigates basic cognitive functions, is administered individually, and is designed to assess

the neurocognitive abilities of children and young people between the ages of 5 and 18. The instrument is organised into four scales, which correspond to the cognitive abilities defined in PASS theory, and 12 respective subtests.

The Wechsler Intelligence Scale for Children - Fourth Edition (WISC-IV; Wechsler, 2003a; 2003b) is the most commonly used intelligence test in the developmental age to investigate comprehension skills. It is a clinical instrument, also administered individually, for assessing the cognitive abilities of children aged between 6 years and 0 months and 16 years and 11 months.

For the purposes of this research, the subtests related to the Verbal Comprehension Index (VCI) were administered, i.e. those related to Similarity, Vocabulary, Comprehension, and the related optional subtests, i.e. Information and Reasoning with Words. The interpretation of this index allows us to define the condition of several skills that are important in the expression of intelligent behaviour in the classroom and in the world at large. Specifically, the Verbal Comprehension Index is a measure of comprehension of verbal stimuli, semantic reasoning skills, ability to form concepts and ability to communicate in formal contexts.

2.4. Data processing

Before proceeding with the analysis, outliers were eliminated using the same criteria in the experimental group as in the control group, i.e. those subjects who obtained results that were clearly different from the rest of the sample.

In order to check the effectiveness of the training, the data were first analysed by means of Manova (Multivariate Analysis of Variance or multivariate Anova). This type of analysis allows the data to be checked on the basis of several factors. In this case, time (initial and final) was taken into account as a factor within. The time factor was then correlated with between factors, such as the group (experimental and control), school, class and location, considered on two levels. In this way it was possible to ascertain the significance of the group factor (i.e. the difference between the experimental and control groups and thus the introduction of the variable read aloud).

The analysis also made it possible to assess the baseline of the sample, i.e. the starting conditions, in order to take into account any differences between the experimental and control groups in relation to the final results. In this study, the experimental and control groups did not differ significantly in the comparative analysis of the baselines. It was therefore possible to state with reasonable certainty that not even the starting level could influence the results obtained. Subsequently, in order to control not only for the starting points but also for other factors, the data were analysed by means of multifactorial analysis of variance for repeated measures (time x group). The factors included, besides time, were places (Turin, Modena and Lecce), schools, classes and ESCS.

The statistical analysis showed only one interaction effect within subjects, that of «group x time», highlighting that the only determinant of the effects found was indeed the inclusion of the intensive reading aloud training, regardless of location, class, school or age group.

3. RESULTS

The results of the standardised instruments used showed an increase in the areas assessed in all tests for all experimental classes involved, demonstrating how the reading aloud intervention was able to determine a significant effect on cognitive performance and, specifically, on comprehension skills. Exposure to reading aloud in the experimental classes therefore trained various cognitive processes, in line with the reference literature. The analysis of the effect size of the control group, compared with that of the experimental group, made it possible to highlight the relevance and significance of this increase.

A statistically significant result of the CAS tool is the 'group x time' interaction ($F = 16.195$; $p < 0.001$). Comparing the four subscales and the total scale, it is evident that the results of the experimental group differ considerably from those of the control group, in which there is no increase in some areas.

As can be seen from the three graphs (Figs. 1, 2, 3) relating to CAS results in the second classes of the three schools in the three provinces, although the schools started from different levels of ESCS and different socio-cultural backgrounds, all three classes showed significant increases.

Figure 1. Results CAS2 of Dewey Primary School (Turin)

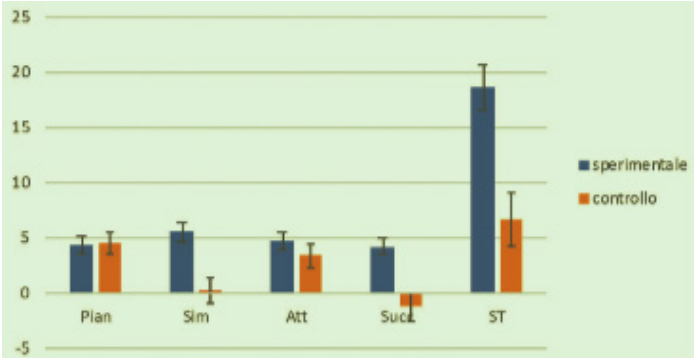


Figure 2. Results CAS2 of Rodari Primary School (Modena)

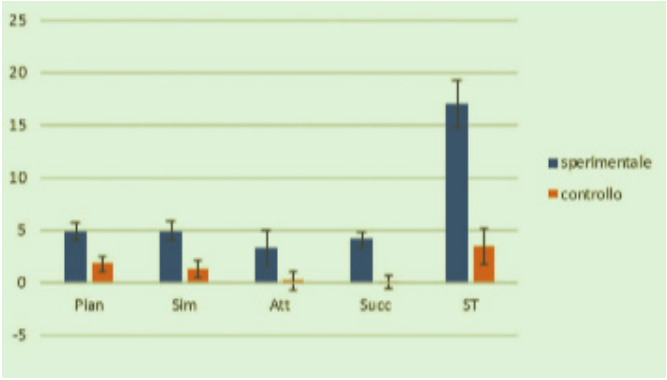
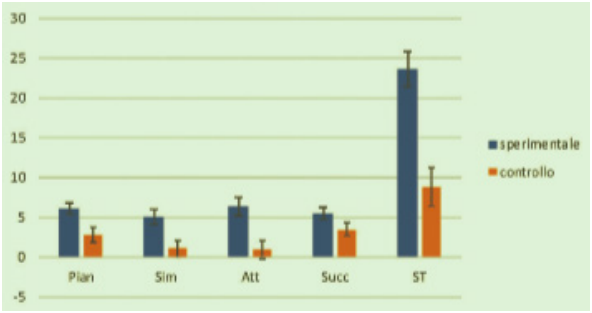


Figure 3. Results CAS2 of Mogadiscio Primary School (Lecce)



The same trend was observed in all classes. The children in the experimental groups thus improved their skills in planning, simultaneity, attention and succession. The overall score, represented by the total scale (ST), expresses, with a good approximation, the overall cognitive functioning (Batini, Bartolucci, 2020). It is important to emphasise that the overall results on this battery are positively correlated with educational success, with an immediate effect on school performance.

The results provide a result that can be defined as «cognitive democracy»: the benefit of exposure to reading aloud cuts across all performance bands in the experimental groups and was enjoyed by both advantaged and disadvantaged children, allowing differences in performance to be narrowed and thus bridging the variability within classes.

For the WISC-IV tool, as mentioned above, the subtests that make up the VCI (Verbal Comprehension Index) were administered.

The three graphs (Figs. 4, 5, 6) show the increases (or decreases) in the two groups (in the overall aggregate data) between the first and second surveys in all three provinces. Subjecting the data to repeated-measures Manova statistical analysis, the only statistically significant

interaction (F = 91.531; p < 0.001) was again that between time and group, indicating a specific effect of the training on the children's and young people's performance. The results were surprising, also in this case. The results of the individual subtests are of great interest due to the analytical specificity of the effects.

Figure 4. Results WISC of Dewey Primary School (Turin)

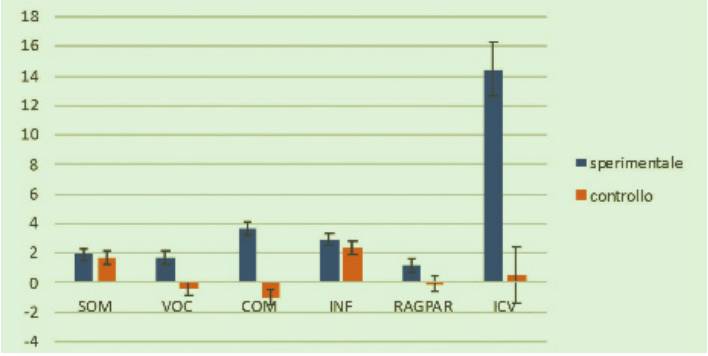


Figure 5. Results WISC of Rodari Primary School (Modena)

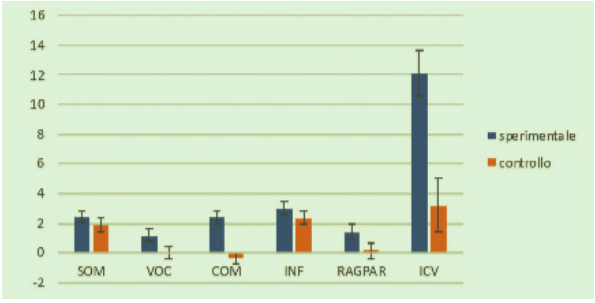
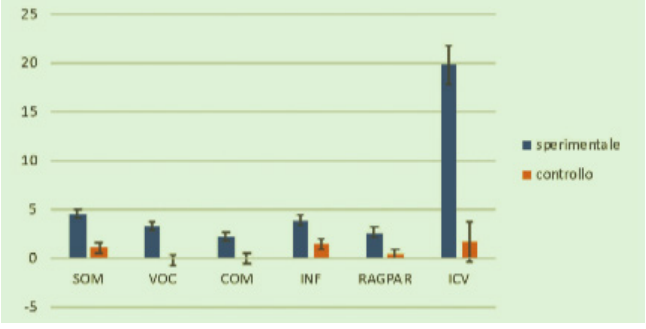


Figure 6. Results CAS of Mogadiscio Primary School (Lecce)



For this tool, too, the data were analysed from the different initial performance levels and different ESCS levels. The observations are similar, although in this case. In the experimental group the benefit is transversal in all the performance bands levels and the increases are significant for children who had higher starting points, as well as for the most disadvantaged. In the control group, on the other hand, the data are mixed and show little increase. For the groups of children who started with higher initial performances there was even a decrease, probably attributable to a decrease in their motivation.

4. CONCLUSIONS

Although aware of the presence of some limitations, the analysis of quantitative data leads to the conclusion that the introduction of the practice of reading aloud can really represent a real action in the direction of a democracy of learning, able to support and legitimize the achievement and enhancement of fundamental skills for life and school success (Scierri, Bartolucci & Batini, 2018).

Linking the socio-economic and cultural characteristics of the three territories with the benefits of reading aloud in their schools has enabled us to demonstrate the equitable value of the practice.

These considerations are of particular relevance if included in a social reasoning. Socio-economic imbalances cannot and should not become predictive of learning imbalance. It is the school, however, that can make the difference, taking charge of a reading habit, which will not only promote more reading, but also facilitate the achievement of many other learnings (Naglieri, 2005; Naglieri & Goldstein, 2011).

The tools chosen to measure the benefits represent an important reference to grasp the scope of the practice of reading aloud in the logic of equity at school.

The processes of planning, attention, simultaneity and succession, as measured by CAS2 are closely correlated with the development of reading skills.

In the earliest stages of literacy, at the end of pre-school and at the beginning of primary school, the processes most closely related to literacy skills are the most important.

In the primary school, the processes most related to reading skills are succession, probably involved in the sequencing of reading (Batini, 2022).

In the very early stages of literacy, at the end of kindergarten and at the beginning of primary school, the processes most related to reading skills are succession, probably implied in the sequentiality of reading, and planning, through which the reader visually defines the identity of the word and is able to distinguish it from other similar words (Kendeou *et al*., 2015).

and is able to distinguish it from other similar words (Papadopoulos, 2002). In addition, a particularly important role is played by attention, which largely influences reading skills. In this regard, Rabiner and Coie (2000) found that attentional difficulties in kindergarten and early primary school are generally associated with lower reading skills. Moreover, in a study conducted by Naglieri and Johnson (2000), planning was found to be the process (among those indicated in the PASS theory) most correlated with efficiency in mathematics. In this

overall picture, it is evident how reading aloud can lead to improvements not only on the linguistic level, but also on all those cognitive processes widely used in all disciplinary fields.

Also noteworthy are the data collected on the Verbal Comprehension Index (VCI) of the WISC-IV scale, since this index is considered a valid predictor of school success (Orsini & Pezzuti, 2016; Poletti, 2014). For example, the subtests Comprehension, Information and Vocabulary generally allow to measure the subject's stored personal and scholastic knowledge, whose deficit in the school context has repercussions on both functional literacy and mathematical competence levels (Orsini, Pezzuti & Picone, 2012; Wechsler, 2012, 2003a, 2003b).

Reading aloud, therefore, represents a concrete response to the need to act on the predictive power of school success in order to restore equity in the classroom and counteract drop-out choices, which most often take root in the early years of schooling. It is necessary to rethink the school curriculum by systemising reading aloud, as a pedagogical device capable of «valuing» verbal intelligence, a positive predictor of school results (Gygi *et al*., 2017; Roth *et al*., 2015; Gut *et al*., 2013).

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