7 When storytelling meets active learning: an academic reading experiment with French MA students

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Abstract

Reading, understanding, analysing, and synthesising texts in English are skills all French university students in humanities and social sciences are expected to develop. "Research and Storytelling" is a pedagogical project funded by Sorbonne Paris Cité that aims to help Master of Arts (MA) students in the humanities become better readers of research articles by using a specific set of narrative devices. We hypothesised that the use of storytelling devices would not only improve comprehension of scientific articles but also ease anxiety and raise confidence. The data provided by 26 students is composed of 11 journal entries per student (one per class session), a stress test completed at the end of the semester, their grades and feedback, and their final evaluation of the course. Results indicated that after 12 two-hour sessions, most students had a sharper and more robust method for reading articles than before the course. They felt more comfortable with the task, and their self-confidence had increased. Most students

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also stated that after taking the course they felt more able to re-inject the knowledge and know-how they had acquired into the writing of their master's thesis.

Keywords: storytelling, narratives, scientific reading, motivation, pragmatic skills.

1.   Introduction

French university lecturers often complain that their graduate students are poorly equipped for reading research papers in English. As advocated by Turner (1996), reading scientific writing as narrative might help students become better and more frequent readers of research papers. Storytelling can be used as a natural scaffolding provided by human cognition to bring structure to challenging information; it activates the whole brain as it involves mental simulation and imagery.

In the framework of a pedagogical project, we devised a course to help MA students become better readers of research articles by using a specific set of narrative devices and an interactive pedagogical approach. In this chapter, we review previous studies, present our devices, and the results of an experiment designed to test their impact on academic reading by students in the project.

2.   Students' reading habits and academic demands

Reading, understanding, and synthesising texts in English are skills almost all French university students are expected to develop. Yet, at the undergraduate level, students are rarely taught how to read texts in English as a Foreign Language (EFL) (Hill, Soppelsa, & West, 1982; Spack, 1988). Additionally, skills developed during undergraduate years in English grammar, vocabulary, and syntax do not easily transfer to scientific articles (Luna, 2013; Schuls, 1981). Students are thus expected to learn how to read complex scientific content on

their own and to be able to synthesise and analyse it, based on their ability to read English. Yet the ability to read or speak English does not automatically entail that one can read and understand scientific articles written in English. Students need to be taught those skills (Ro, 2016).

Reading academic papers involves both reading skills and the mastery of a large vocabulary (Laufer & Sim, 1985). However, over the last few decades, scholarly research and governmental and media surveys have described what has been called a "crisis" in young people's reading habits. In 2007, the NEA survey has reported a constant decline in numbers of daily readers and a significant increase in non-readers since the 1980's. In France, similar surveys drew the same conclusions (Donnat, 1998, 2008). Baudelot, Cartier, and Détres (1999) showed that young adults read the books required for school, but most teenagers stop reading for pleasure after the age of fifteen and begin to consider reading boring. One explanatory factor could be that the books they are assigned at school do not interest them. Another factor is that reading is not considered a socialising activity and, in the era of the internet and social networking, young adults turn more easily to electronic devices and social interaction online (Donnat, 2012).

Previous research on the attitude of university students towards reading has shown difficulty in drawing an objective picture: students now read more online than they read with printed material (Collège scientifique de l'OVE, 2010), but Lahire (2002) observed that fewer than 50% of students read assigned material from beginning to end and concluded that students do not read assigned material to expand their knowledge on a topic but rather to find specific information.

According to Lacôte-Gabrysiak (2015), humanities students enjoy fantasy books because it reminds them of the stories they used to enjoy when they were young. Their taste for non-academic reading is therefore guided by their attraction to narratives. And yet, Krashen (2004) noted that the opportunity for pleasure reading is often missing in EFL classroom contexts. Storytelling can thus be used to introduce a dimension of pleasure into academic reading. Previous research has shown that narratives are easier to comprehend, and audiences find them more engaging than traditional "logical" scientific communication (Graesser,

Olde, & Klettke, 2002; Green, 2006). Narratives are associated with increased memory and better understanding (Moore, 1999; Schank & Abelson, 1995), and several researchers have advocated the use of narratives as a learning format (Dahlstrom, 2012; Reiss, Millar, & Osborne, 1999). For all those reasons, it appears that storytelling can be a powerful educational tool useful for training graduate students to read complex scientific papers and develop a critical mind more easily.

3. The "Research & Storytelling" project

3.1. Description of the project

The research cited above shows that students are often prevented from engaging in scientific reading because of a lack of daily practice and taste for this solitary occupation and particular type of literature, along with low levels of motivation. In a survey we conducted on our students in the humanities, five out of 26 answered they did not like reading either books or academic papers. The *Science & Storytelling Project*[6] was launched in September 2015 to design a course on academic reading that would tackle the reading obstacles described in the literature. Our contention was that an academic reading course would be most efficient when providing not only reading devices that would rely on students' individual tastes for storytelling but also an active learning environment that would appeal to their socialising skills and fuel their motivation. Our aim was not merely to improve the students' reading skills, but to develop their self-efficacy beliefs (Bandura, 1997; Pajares, 1996) with the longer-term goal of becoming efficient and regular academic readers.

There exist various types and forms of scientific articles. Because we opted for a hands-on course, we decided not to linger on this variety. To match our students' needs, we focussed on scientific articles in the areas of the arts and humanities.

6. The project, launched by Pr. Aliyah Morgenstern influenced by an original idea by Monica Gonsales-Marques, benefited from an Idex Sorbonne Paris Cité funding.

The main objective of the project is to design and test an academic reading course based on storytelling that could be taught to different audiences (MA students, Ph.D. students) in different formats (24-hour, six-hour and three-day courses).

With this goal in mind, the following research questions guide the present chapter:

- How do storytelling and the reading devices affect our EFL students' academic reading skills?

- How do storytelling and the reading devices affect our EFL students' academic reading motivation?

- Does the programme set the students on the path of reflexive thinking?

3.2. The MA reading course under study

The course was taught over two years to 148 students, at MA (n=76) and Ph.D. (n=72) levels. This study concentrates on the 24-hour course designed for MA students majoring in English Studies and taught in 2016-17, during the second year of the experiment at Sorbonne Nouvelle University. Although the given course was taught to English majors, the project meets the characteristics of the research framework developed for English for specific purposes by Sarré and Whyte (2016) as it relies on the interaction between language, content knowledge, and methodology of a specific domain (Douglas, 2010). The objectives of the course were announced to the students during the first session (Figure 1).

The students were told that active participation was expected, as interaction with discussion sessions and mutual learning in groups works better towards the achievement of the objectives. To allow students greater autonomy, the instructor also planned role plays: students were asked to review abstracts and articles for a peer-reviewed journal; they impersonated in turn the role of a research

supervisor as they listened to their peers present their research projects and gave their fellow students constructive feedback. Teacher-fronted slide shows were kept to a minimum and an inductive method was preferred to introduce the various storytelling reading devices: these were presented after the students had brainstormed and discussed their findings in groups.

Figure 1.   Objectives of the course

The course was planned and the material designed to encourage and sustain a reflective approach (Gokhale, 1995; Poteaux & Berthiaume, 2013). Students were required to complete a weekly journal for each of the 11 sessions. The format and questions were the same for each session:

- summarise the session in three short sentences;

- give a title to the session;

- indicate how this session changed you in terms of knowledge, know-how and social/personal skills;

- what did you prefer in this class? Briefly explain your answer.

The instructor wrote a journal entry at the end of each session to reflect upon the teaching material and the teaching experience.

Overall, 26 students attended the course, 22 women and four men aged 21-28. Among them 21 declared that their mother tongue was French, one English, one Arabic, one Russian and two Italian. Ten students were first year MA students and had never read scientific articles, while 16 were second year MA students who had already written a first-year thesis and had read scientific material. The students were all English majors, and their level of English ranged from B2 to C2[7].

3.3.   The data available

The data is composed of the class grades assigned on the basis of an assessment grid, their journal entries, the instructor's teaching journal entries, scores on a stress test completed at the end of the semester, the graded papers, and a feedback survey of 27 questions answered online at the end of the semester (Table 1). We collected 50 graded papers (home assignment and final exam) as one of the students was a guest student.

Table 1.   Overview of the data

Nature of the data	Number
Stress test (week 12)	26
Home assignment (graded)	25
Final exam	25
Students' journals	234
Teacher's journal	11
Feedback survey	26

7. We evaluated the students' level following the common European framework of reference for languages, Council of Europe (2001).

4. Storytelling devices to inform academic reading

The devices presented in this section already exist in the literature. However, they were remodelled and adapted as most of them were designed as writing devices and were also not specifically aimed at EFL students. We presented five devices so that the students could choose which one best fitted their needs and the scientific article under study. Having the students select and defend their preferred device was part of the empowering process we tried to sustain.

 Narrative Elements: This device is derived from Luna (2013). The author lists the narrative elements present in any tale and claims that they can be equally found in research articles. The Narrative Elements include *Protagonist, Antagonist, Scene, Conflict, Stakes,* and *Resolution*. Luna's contention is that being aware of this similarity makes students better scientific writers. We tried to show our students that it makes them more efficient readers because looking for these elements within a scientific article provides them with a map to find their way through the article and fuels their agentivity. Figure 2 and Figure 3 show how both a tale and the title of a scientific article (Bastian, Jetten, & Fasoli, 2011) can be presented.

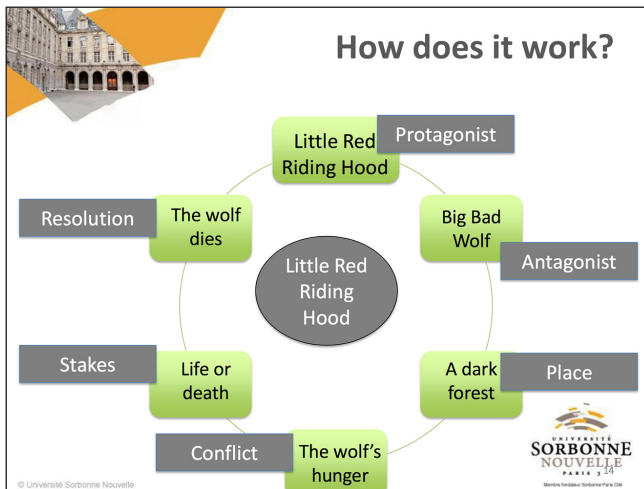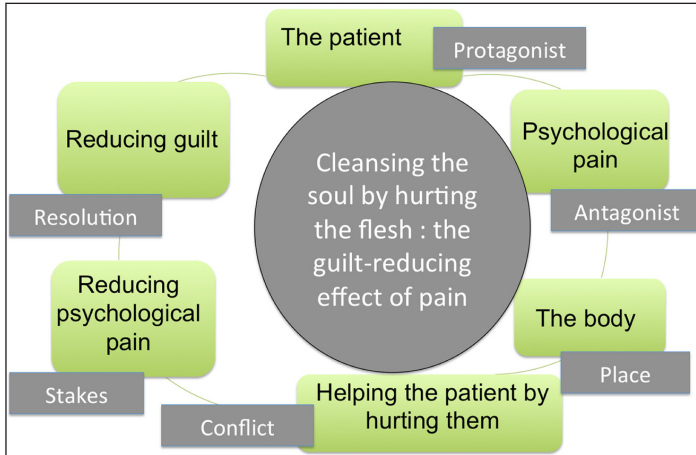Figure 2. The narrative elements in *Little Red Riding Hood*

Figure 3.   The narrative elements in the title of a scientific article

Narrative Spectrum – And… But… Therefore (ABT) structure: This device is derived from Olson (2015). He points out that a story – or a scientific article – is not an accumulation of unrelated facts. To be compelling, both stories and scientific articles should present facts along a Hegelian dialectic consisting of 'and', 'but', and 'therefore'. Thus, we tried to teach our students to identify this structure in scientific articles for them to understand the underlying logic. The device was first tested using a tale: "Little Red Riding Hood is asked to bring her grandmother some food AND not to talk to strangers BUT she tells the wolf more than he needs to know, triggering off her untimely death, THEREFORE little girls should listen to their mother's advice".

Dramatic Arc: This device is derived from Luna (2013). With the "Dramatic Arc", the author places emphasis on the way tension builds and subsides in storytelling. This writing device is about the momentum a scientific article should gather so as to help the reader follow the argument more easily. As a reading device, the "Dramatic Arc" provides the students with yet another structure to follow the author's thinking and to discriminate among the arguments and the results. In Figure 4, we applied the device to *Little Red Riding Hood*.

Figure 4.   The dramatic arc, adapted from Luna (2013)
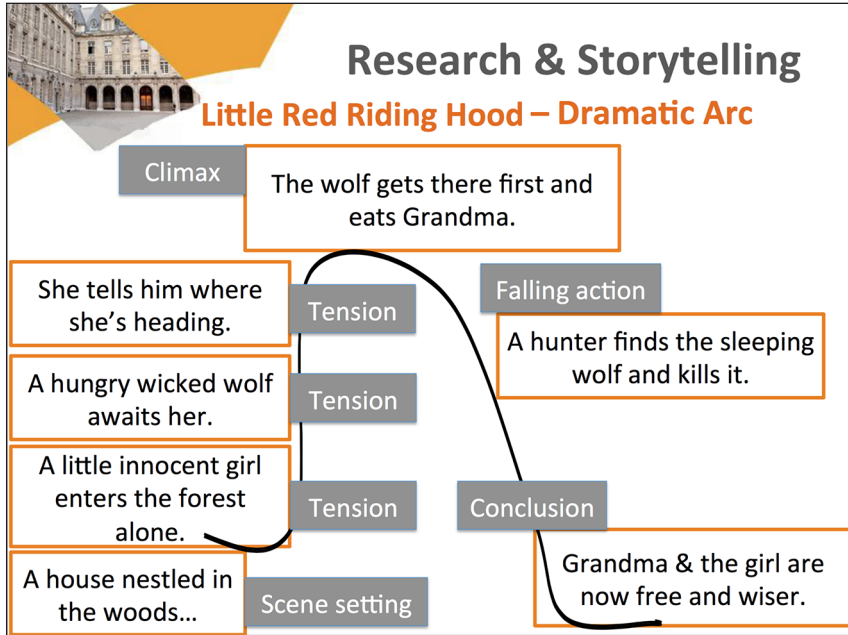
Introduction, Method, Results, Analysis, and Discussion (IMRAD): This refers to the prototypical structure of a scientific article (based on experimental psychology papers) that is commonly taught in academic writing courses (Olson, 2015). We chose to present the device although it is rarely used as a reading device in the humanities.

Recall Diagram: This device is derived from Smith and Morris (2014). It differs from the other four devices presented above as it is useful for synthesising and retaining information and not necessarily for guiding the students through the articles. The theory behind the 'recall diagram' is that readers retain information better if they set it in relation to their own lives. The recall diagram (Figure 5) is a reading, not a writing device. It is not a storytelling device in itself but it implies that scientific articles tell stories, and as such, we may relate to them just as we relate to stories.

Figure 5.   Recall diagram adapted from Smith and Morris (2014)

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Topic:_____
Significant details:
              1._____
              2._____
              3._____
Relate:_____
React:_____
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The instructor drew the students' attention to the distinction between the 'relate' and 'react' sections. The 'react' section is the reader's critical response to the article, whereas the 'relate' section is setting the article in relation to his/her personal life. This section is crucial due to the hypothesis that readers better retain an article's main ideas when personally affected by its contents, both positively or negatively. The students were thus invited to always keep track of their feelings when reading scientific materials, similarly to the way a young child can experience fear, sadness, or happiness when reading tales.

5.   Results and discussion

In this section we address the research questions and assess whether the students developed reading skills and reflexive thinking. We also assessed whether the course fueled their motivation.

5.1.   Learning outcomes

5.1.1.   Getting the students to read more

One of the goals of the course was to get students to read academic work. Overall, during the semester, the students read eight articles, ten abstracts, and

one fictional narrative, for a total number of 63,339 words, i.e. about 5,280 words per week. The general survey completed by the students online at the end of the semester offers a favorable insight into the students' involvement in the course, as only one student admitted he had rarely done his homework, whereas 16 answered that they often did their homework, and nine claimed that they always did their homework. The students never discussed workload in their journal entries, and the instructor never wrote that she had the feeling that not all the students did their reading assignments. Rather, she explained that the students were eager to answer her questions and to participate in class.

5.1.2. Getting the students to read better

The two graded papers were designed to evaluate whether the main objectives of the course were achieved. The papers tested the students' ability to use the reading devices, synthesise articles, and keep a concise record. Table 2 illustrates their proficiency for all these skills.

Table 2. Students' proficiency in reading, synthesising and keeping record of scientific articles at the end of the semester (n=25)

	Using the reading tools	Synthesising	Keeping a record
Acquired	12	9	3
In process	10	13	17
Not acquired	3	3	5

Results show that half the students (12) had acquired the use of the reading devices after a semester of training, and close to the other half (10) were in the process of acquiring it.

Some of the students seemed aware of the empowering dimension of the reading devices. In a journal entry, Kevin[8] explicitly drew a parallel between storytelling

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8. We changed the names of the students to guarantee anonymity and retained only the gender. Therefore Kevin refers to a man.

and the structure of scientific articles. He explained that focussing on the structure of an article helped him access its contents and retain it:

> "The storytelling elements can be a very helpful tool to analyse the parts of an academic text, helping the reader to identify the different parts of an article and assimilate its content in a more efficient manner. For me, it has made the text less abstract and it has changed my way to deal with the text"[9] (Kevin).

Interestingly, the students who know how to use the devices are more likely to synthesise the content of articles accurately: out of the 25 students, 22 either acquired or were in the process of acquiring the synthesising skill. However, only nine students were fully able to synthesise articles at the end of the semester, while more than half of the class still had to improve. Students did not keep a record of their scientific reading before the course. The skill was thus completely new to them. However, if only three students had full mastery of the recording skill, 17 more were in the process of acquiring it. We also observed that the three students who could write a record by the end of the course were among the nine who could synthesise and the 12 who used the reading devices correctly. Keeping a record is among the latest stages in Bloom's (1956) taxonomy and before creating a report, students need to read articles in an efficient way, identify key notions, synthesise them, and organise information. Writing a record, therefore, is achieved by building upon other skills.

5.1.3. *Setting the students on the path of critical reading*

Throughout the semester, the students were trained to become more reflective readers. In her journal entry, Melissa wrote about the reviewing activity:

> "I liked the reviewing part because it forces us to take some distances from the paper […]. I think it makes us realise that producing a scientific

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9. The students' comments were not corrected for errors in English.

paper, in the structuring part essentially, is all about choices, which can be questioned".

The students were encouraged to reflect upon their learning experience and their mastery of the narrative devices in their journals. We double blindly-coded the the students' comments (n=234) and counted the number of journals in which the students wrote reflective comments on the course and/or their learning experience. The agreement between the two raters was high (97%, 226/234, Cohen's Kappa, $\kappa = 0.94$). We classified the students into three categories:

- not reflective: the students adopting a reflective stance in fewer than two journal entries;

- somewhat reflective: the students adopting a reflective stance in four to six journal entries;

- reflective students : the students adopting a reflective stance in seven or more journal entries (see Table 3).

Table 3. Distribution of the reflective students throughout the semester

Not reflective students	Somewhat reflective students	Reflective students
5	13	7

When the course began, students were not used to engaging in critical thinking. It was only after four weeks of training that reflective remarks started to emerge in the journals. The data also indicates that the seven students who wrote critical remarks in their journals were always the same students, M1 and M2 alike. Overall, 20 students wrote reflective comments in their journals. These results indicate that thinking critically is a difficult skill to acquire.

5.2. Shift in attitude

Since becoming a regular reader of articles in a foreign language cannot be achieved overnight, the course was designed mostly to change the students'

attitude towards academic reading in English so that they might in the future evolve into regular critical academic readers. An important part of this study was thus to monitor any shift in attitude.

5.2.1. Motivational factors

In the first three journal entries, few students wrote about motivation, yet after Session 4, eight to 13 students per session spontaneously wrote about their motivation to engage with the course (Table 4).

Table 4. Number of students who identified factors of increasing (+) or decreasing (-) motivation in their journal entries

	Motivation +	Motivation -
Journal 1	6	1
Journal 2	3	1
Journal 3	4	0
Journal 4	10	0
Journal 5	10	0
Journal 6	6	0
Journal 7	13	0
Journal 8	9	0
Journal 9	9	0
Journal 10	5	0
Journal 11	11	0

This development of motivation can be observed in Marion's comments. In Journal 2, she wrote that she preferred working on her own and did not like group work: "I prefer to work alone and then explain my thoughts to the other students instead of developing an answer in group" (Marion).

But in Journal 4, she changed her attitude towards the teaching method that constantly relied on interaction to collectively build knowledge:

> "I think that this way of learning, that gives a lot of importance to
> practical approach and to the sharing of our thoughts, is really helpful

to me, because I learn very fast and I can immediately apply the new-learnt skills in my reading activity" (Marion).

The students were not directly encouraged to mention motivation in their journals. The fact that eight to 13 chose to do so after Session 4 is noteworthy information on the learning experience of the students in this course.

In the end-of-semester survey of the course, the students were asked to express whether they had identified any factors of motivation that encouraged their participation in class. Fifteen students responded in the affirmative, selecting "interaction" as the most important factor, followed by their desire to improve and learn. It appears that our teaching approach, along with the use of storytelling to read articles, enhanced motivation and perceived knowledge acquisition.

5.2.2. Stress factors

To get a better overview of the results on motivation, we looked for occurrences of strings related to stress in the journal entries, as shown in Table 5. We observe a decrease of the stress (stress - category) after Session 11, hence a week before the final exam. In Journal 11, 11 students wrote about stress; one mentioned that she was afraid to take the exam (stress +) whereas ten spontaneously wrote that they felt prepared for the task and that they were confident (stress -). The other 14 students did not mention stress.

Table 5. Number of students who identified factors increasing (+) or decreasing (-) stress in their journals

	Stress +	Stress -
Journal 1	2	3
Journal 2	4	2
Journal 3	0	1
Journal 4	0	2
Journal 5	1	2
Journal 6	0	0

Journal 7	0	3
Journal 8	0	0
Journal 9	1	2
Journal 10	3	2
Journal 11	1	10

Just before the final exam, the students filled out a stress test (Table 6) and 22 students answered they felt confident before starting the final exam. All the students felt that they had the knowledge and skills to do the exam and all but one felt prepared for the task.

Table 6.   Results to the stress test answered before the final exam

	Not at all	A little	Somewhat	Moderately	Very	Extremely
1. I am confident that I know how to approach this task	0	1	3	14	8	0
2. I feel I have the knowledge and skills to do this task well	0	0	0	16	9	1
3. I feel well prepared for this task	0	0	1	14	11	0

These results corroborate the tendencies we observed in the journal entries; by the end of the semester, the students felt that they were skillful enough to read scientific articles for their master's' degree.

6.   Conclusion

In this chapter we presented a new course for MA students we developed as part of the *Science and Storytelling Project*. The main objective was to train graduate students to become good readers of scientific papers. We conveyed qualitative analyses of the 2016 Master cohort (n=26) in the English Department at Sorbonne Nouvelle University, relying on 234 students' journal entries, 11 teacher's journals, a stress test, the students' exams, and a feedback survey.

Our hypothesis was that providing a course using storytelling and reading devices to teach academic reading would help our students understand academic papers while giving them pleasure to read complex material in English.

We assessed the impact of the course following our research questions. We analysed whether storytelling and reading devices affected our EFL students' academic reading skills and motivation, and helped them develop reflective thinking. Results showed that the course managed to reduce anxiety and to raise motivation. By using storytelling as the basis of the learning process, by sustaining it with active teaching methods and by providing them with sizable material to read every week, the programme better prepared students to face academic reading requirements in English.

Yet, if preliminary results tend to indicate that half of the students started to think reflectively at the end of the semester, we were not able to draw significant conclusions regarding the acquisition of academic reading skills. Indeed, by the end of the semester most students were still acquiring the methods and skills needed to synthesise or keep a record of a scientific paper.

Although the main goal of the course has been achieved (i.e. putting the students on the path to critical thinking and reading), it also appears that this study should be monitored over a longer period. This pilot study cannot sufficiently corroborate the students' progress and improvements. Indeed, the course lowered the students' stress and boosted their motivation, but we were not able to measure whether it helped them develop their reading skills and become more autonomous readers.

For future research, it would be interesting to investigate which devices were preferred and why, looking at several independent variables such as the profile of the learner, their field of study, their proficiency, and their taste for reading. Moreover, improved reading comprehension can benefit other areas of learning and specially writing. Since writing involves imitation, implementing a programme such as the *Research and Storytelling* method might have the potential to improve academic writing. Overall, the programme has given the

students the devices they needed to understand the subject matter, provided them with intensive and efficient practice, and has proven to make students read more eagerly.

7.   Acknowledgements

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