The Reading Plan: A Strategy to support the Academic Performance of students of Systems Technology at Antonio de Arévalo University Foundation

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Abstract. This article is the result of the research: The reading plan at the Antonio de Arévalo University Foundation: a strategy to support the academic performance of students entering the first semester of higher education. This research is part of the linguistics, psycholinguistic and sociocultural approach of Daniel Cassany achieving results from a diagnostic test of reading levels and is based on three moments; the preparation, execution and evaluation of the project to the group under study. The conclusions indicate that the course oriented from this approach manages to develop reading and writing levels that allowed them to better understand the other subjects.

1. Introduction

The objective of this research was to design a strategy to support academic performance to improve reading comprehension of students of the Systems Technology Program of the Faculty of Engineering Sciences. The proposed reading plan is based on the description of a problem in the institution: the low results of the students in the national Saber Pro test, tests that the government applies to evaluate the quality of the educational service based on the competencies they possess. Students related to the understanding, analysis and synthesis of written texts.

At Antonio de Arévalo University Foundation –Unitecnar- to improve reading levels, the development of the critical and analytical capacity of argumentation and the reading habit of students in the institution, is supported by different pedagogical strategies applied by the teacher in the course of Cátedra Tecnarista II. In that sense, the implementation of the reading plan through the Virtual Interactive Learning Platform System -SPLAVIA-, is a new training strategy that leads to the improvement of the academic process. With the purpose of analyze the results of the implementation of the project, a diagnostic test of reading and written composition was carried out, subsequently the investigation took three moments; the preparation, execution and evaluation of the project to the group under study.

Students who enter Unitecnar, come mostly from strata 1, 2 and 3 and graduates of schools in these social sectors, for the most part, have a deficiency in reading and writing. To overcome these deficiencies, the institution guides its teachers so that in their teaching-learning process they rely on pedagogical strategies based on more structured and complex discursive genres based on the composition of essays, articles, reports, where the student is encouraged to take a critical stance in front of a text and appropriate the contents. Therefore, the academic process must develop a particular intellectual and social capacity that affects their understanding and writing.
For its part, the national government through the Ministry of Education has been implementing since 2010 the National Reading and Writing Plan, which contemplates in Reading is my story, that reading and writing are present in learning in all areas of knowledge. To achieve this, from the PNLE (National Reading and Writing Plan) reading and writing are appreciated as practices that are related to cognitive processes that are also closely related to the social dimensions of their use and as a basic right to which they must have access all the citizens. In this way, the PNLE contemplates three basic dimensions of reading and writing: its status as a right to have access to the exercise of full citizenship, its status as a tool for social insertion and the considerations of the cognitive field [1]. Despite the programs that the ministry has been implementing, these initiatives are not yet reflected in the skills of reading, writing and reading comprehension in student performance.

Educational institutions know and openly acknowledge that reading is the basis of knowledge. However, some have trouble finding the right way to overcome this low level of reader.

In this order of ideas, it is emphasized that the importance of this project lies in strengthening reading comprehension in the students of the institution, which includes processes of interpretation and development of reading levels. It is important to explain that teaching to read is part of the micro curriculum and the educational programs organized by the researcher. However, different authors have conceived different positions about reading and its conjugation in the student's cognitive process and the context in which learning relationships are established. Larrosa affirms that taking reading as training seriously can be, it seems to me, a way of breaking down borders and a way of affirming the formative and transformative (productive) power of the imagination [2] and focuses its attention on reading as an experience that transcends the reader's imagination in an analysis of disciplines, contexts and actions.

On the other hand, Gómez Soto concludes that there are two causes of the loss of interest in reading in today's society: one is the new leisure model that tends to dispersion, and the conditions imposed by the powers established for the development of culture in society [3]. This author considers that reading habits have been lost with the lack of distribution of young people's free time. It is important to clarify the importance of generating spaces for reading and writing texts, not only in the classroom but (outside of it), for the academic and intellectual training of students. In that sense, Carlino, regarding the importance of training and teaching students in the writing of academic genres, affirms that it is common for teachers to insist that students should read, but it is more rare that we think they should also write (outside the exams) to learn our subjects. Writing is more careless than reading. And yet, writing is one of the most formative intellectual activities that exist. [4].

The research is based on the so-called linguistic, psycholinguistic and sociocultural approach, which for Cassany are not three ways of reading, but only three representations about reading, namely: linguistic, psycholinguistic and sociocultural. These approaches contribute to develop critical reading processes in students. In this way, those who are in the linguistic dimension, in this one the reader is able to recognize the explicit concepts in the text, this allows them to rank and organize ideas in the process of preparing a synthesis [5]. Similarly, to understand reading from the approach of psycholinguistics, Cassany affirms that reading does not only require knowing the combinatorial units and rules of the language. It also requires developing the cognitive skills involved in the act of understanding: provide prior knowledge, make inferences, formulate hypotheses and know how to verify or reformulate. Which means that, for this reader, the greatest effort is focused on the inference of the overall idea of reading, the communicative purpose, the formulation of hypotheses and verification of it. [6].

Consequently, for this author, Cassany, the sociocultural approach to read is not only a psychobiological process treated with linguistic units and mental abilities, it is also a cultural practice immersed in a particular society with a peculiar tradition, history, customs and forms of communication [7]. That is, reading is a linguistic and cognitive process in which the social and cultural relations of the reader are implicit.
2. Reading Levels
Understanding is the process in which a relationship is established between the reader and the text. In this sense, there are three levels of thinking. The first is the literal level, Gordillo and del Pilar Flórez, points out that it focuses on the ideas and information that are explicitly stated in the text for recognition or evocation of facts [8]. It is possible to say that it is the basic level where the reader focuses on recognizing the ideas and information made explicit in text. The second is the inferential Castillo and Cool, as mentioned in Cisneros, Olave and Rojas states that in the inferential reading the possibility of relating information in the text to account for information that does not appear explicitly is explored. This type of reading implies a global understanding of the content of the text as well as the communication situation: to recognize the communicative information that underlies the texts, as well as the interlocutor and/or audience to whom the text is addressed. [9]. In fact we build inferences when we understand through relationships and associations of meanings. We seek relationships that go beyond what has been read, associating what has been read with our previous knowledge, formulating hypotheses and new ideas. The purpose of this level is to draw conclusions.

And the last is the critic Pérez says that the university student, and especially the future teacher, develop and exercise the ability to reason reading, critical, creative and autonomous thinking and the skills to understand, analyze and interpret what he reads, so that you can express and support clearly, orally or in writing, your ideas and opinions [10]. Indeed, it is of great value that the student and the teacher take distance from the content of the text they read, to assume a documented and sustained position. We make judgments about the text read, accept or reject it with arguments. This has an evaluative character where the training of the reader, his criteria and knowledge of what is read is involved.

3. Methodological framework
With the purpose of responding to the general objective, the research carried out falls within the mixed paradigmatic approach, which for Hernández, Fernández and Batista is a process that collects, analyzes and links quantitative and qualitative data in the same study or a series of investigations to respond to a problem [11]. The approach in question has a high qualitative component and the information was made through direct collection.

The type of research is descriptive-comparative. It is descriptive because the results of the diagnostic test were described and analyzed, the study of the results of each level of reading evaluated by academic cut and the survey applied to the focus group. In addition, the process and its results are clearly documentary; longitudinal, which is carried out through contracted measurements, with regard to the first, second and third academic period. The measurements must be periodic, trend and improvement options are established.

And it is comparative, because based on the information collected, the results of the implementation of the project in the students in the first period 2019 were compared, in order to measure the degree of reading comprehension. For this, an academic block of reading plan was designed on the SPLAVIA platform.

3.1. Instruments
The diagnostic test was designed to identify the level of reading that students present at the time of starting the course of Cátedra Tecnarista II. It is structured by eight questions (two literal questions, three inferential questions and three critical questions). The reading and writing test was applied to a group of 31 first semester students Technology in Systems in the first period of 2019. The Test was conducted individually through an argumentative text called "Sign of the Times" by Joao Anzanello Carrascoza. At the end of the semester a survey was prepared with the purpose of describing the expectations and opinions that students have when finishing the implementation of the reading plan. The instrument is structured by nine questions, students were asked to answer the questions as honestly as possible. The time to answer the survey was one hour.
3.2 Methodological strategies

The methodological deployment was approached from concrete actions, each of them responds to one of the objectives set. With respect to the first objective, the researcher carried out a diagnostic test of reading and written composition to identify the level of Interpretation and development of reading skills in the students of the Antonio de Arévalo University Foundation.

The design of the reading plan was developed in order to demonstrate the Second objective; after that to set the third and fourth objective, three phases were completed:

3.2.1. Awareness phase. Dissemination of the proposal of the Reading Plan to the directors of the institution, socialization to the students the training strategies framed in the reading plan that lead to the improvement of the teaching-learning process.

3.2.2. Structure phase. The reading plan will have an evaluation percentage within the evaluation process of the subject of Cátedra Tecnarista II, which will depend on the autonomy of the researcher and will be subject to their criteria, taking into account that this will apply by academic cut. The reading plan will have formats which show the different moments in which this strategy is implemented in the teaching-learning process. (Follow-up format Reader Plan).

3.2.3. Operationalization phase. In this phase the strategy of the reading plan is developed through the SPLAVIA platform in which the reading activity is designed, the competencies of the subject (interpretive, propositive and argumentative) and the level of reading to be strengthened in students by academic cut (literal, inferential and critical) in the development of this activity (see figure 1). For that, the researcher must fill in the rubric for the evaluation of the reading plan in her subject for which she will have the indicated formats, which must be available.

Therefore, it was necessary to design a block of reading plan in the subject that guides the researcher with methodological and theoretical activities of a linguistic, psycholinguistic and sociocultural approach that allow to remedy the problems that students bring when they enter higher education.

Consequently, in the first, second and third academic period, it is necessary to design activities aimed at developing the literal, inferential and critical levels in the course (see figure 2) requiring that in the first period methodological activities be designed to strengthen the level of literal reading for which students should read the narrative text called “The House Taken” by Julio Cortázar and summarize it, also make a concept map based on the explanation and examples given in class; activity that must be done individually. Regarding the categories of analysis used, the concept, the lexicon and the main idea were incorporated at this level.
In the second academic period, the teaching-learning process was based on the level of inferential reading taking into account the local idea, the global idea, the author's purpose and the prediction of the events of Gabriel’s "Third Resignation" story García Márquez, to achieve these purposes, students had to read the story and answer the question of inferential level elaborated by the researcher and for that they asked what the author refers to when referring to the third resignation in the story, both in the title and in the content. Also, to determine their level of written composition, they were asked to write some paragraphs of argumentative typology. They were also asked to write their personal opinion about the story.

Similarly, in the third academic period the level of critical reading was developed, the interest in addressing this level, was to analyze the ability to do essays and for the sustained and argued position in the issuance of value judgments on the story called "In the Right Hand of God the Father" by Tomás Carrasquilla.

The texts selected for the approach to the strategy were short stories to make it easier for students to develop reading skills at each reading level. In general, the activities were done in class and later the students uploaded it to the SPLAVIA platform for evaluation and qualification.

The fifth objective will take place by comparing and analyzing the results obtained with the focus group.

4. Results and Discussion
The results of the diagnostic test of reading and writing indicate that in the three competences that are evaluated, 55% of the students are located in the literal level are at the minimum level, 32% at an insufficient level and 4% at a satisfactory level. Students recognize the local and global ideas of the text but have difficulty assuming a critical position towards reading. (See Figure 3)
While proof of written composition, (See Figure 4) in relation to an inferential and critical level, 55% of the students are at an insufficient level; 26% at a minimum level, 16% at a high level and 3% at an advanced level. Students do not understand the information that is implicit in the text, for this reason they find it difficult to assume a critical posture and defend their arguments against reading.

The second moment of this investigation corresponds to the level of literal reading, (See Figure 5 y 6.) the 31 first semester students of Technology in Systems of the Faculty of Engineering Sciences, made conceptual maps and summaries of paraphrase concerning the level in question. The research showed that at the literal level, 90% and 84% of the students are at a minimum level, 10% and 13% at an insufficient level. Students recognize some important concepts in reading, what is difficult for them is to paraphrase what the text says.

In the third moment, the inferential reading level, 87% of the students are at a minimum level, 10% at a satisfactory level, and 3% at an insufficient level. Students infer the overall idea of reading, the
subject and the communicative purpose of the author, but his writing is not organized, because it presents problems of coherence and cohesion that affects the meaning of the text. (See Figure 7.)

![Figure 7. Inferential Level](image1)

![Figure 8. The Essay](image2)

On the other hand, with respect to the level of critical reading, (see Figure 8) 81% of the students are at a minimum level and 19% at an insufficient level. Students take a personal position on the subject, but it lacks the argument to support and defend their ideas. Also, his writing is not organized, because it presents problems of coherence and cohesion that affects the meaning of the essay.

Comparing the results by academic cut, the highest percentage of students are located at the literal level since they identify the information explicitly presented in the text. Similarly, respect the meaning of the text you read as it recognizes important information in reading. He also explains the reading in his own words to reconstruct the information contained in the text using different vocabulary, phrases or sentences, but equivalent in meaning. Although, the percentages of this level are not advanced, since students do not know some synonyms in the reading which makes it difficult for them to paraphrase what the text says.

Likewise, analyzing the results of the inferential level, a minimum achievement is evidenced because some students find it difficult to infer the information that is implicit in the text; surely due to lack of application of cognitive and metacognitive strategies consciously in the elaboration of sentences. On the other hand, the analysis of the essays indicates that, at the level of critical reading, the readers reach a minimum level, since they do not go to intertextuality, that is to say, they have difficulty in relating the content of the text with others that complement it. In this sense, readers partially understand the content of the text and support their ideas in the essay.

At the end of the course of the reading plan, a survey was carried out on 31 students of Technology in Systems, of which the following results were obtained, 84% students said they like to read literary, journalistic and academic texts and 16% do not like to read. Now, with respect to writing, 90% of students do not like to write and 10% indicate the pleasure of writing stories and reports. When asked how many texts they read in the semester, 65% indicated that they read 3 to 5 texts in the academic field, 44% read 1 to 2 texts in the workplace and intimate, and 7% read 5 to 6 texts in the family field.

At the end of the reading plan the students noticed progress in the level of literal and inferential reading since at the beginning of the course they had difficulties to understand the texts, especially to infer relationships of cause and effect. 65% manifest who has difficulty reading critical level, in this sense, when asked to perform an essay, they presented difficulty in assuming a critical position towards the text read. Consequently, student ratings indicate that 28% have difficulties in the process of written communication in punctuation and coherence, 23% in syntax, 18% in cohesion and accent, 16% in
grammatical referents and connectors and 15% in communicative purpose, semantic and pragmatic resources.

The survey also obtained the following results that can be seen in the following figures. The evaluation carried out by the students in figure 9, indicate the expectations that students have with the implementation of the reading plan in the course, 41% indicate the ability to read critically, 47% clearly express their ideas through the writing, 6% in learning the contents of the subject and the other 6% personal improvement. Regarding the opinion of the students about the implementation of the reading plan at the end of the course in Figure 10, 48% consider that I create a reading habit, 32% indicate that it served to learn the contents and 19% improvement personal.

![Figure 9](image1.png) **Figure 9.** Expectation with the implementation.

![Figure 10](image2.png) **Figure 10.** Opinion of the implementation.

Regarding the results of the survey at the end of the semester, it was carried out in order to evaluate the changes in the levels of reading and writing of the students through the implementation of the reading plan, 100% state that there were changes in the interpretation and understanding of texts and in the elaboration of his writings. (See Figure 11.)

![Figure 11](image3.png) **Figure 11.** Changes in reading and writing.
5. Conclusion
In consideration of the results obtained in this research, it is necessary to continue with the implementation of the proposed reading plan aimed at training students of Systems Technology in reading and writing considering the diagnostic test, the analysis of the results implemented in each academic period and as expressed by the students in the survey:

- The development of skills and abilities in this course was allowing him to better understand the other subjects.
- At the end of the semester, the level of literal, inferential and critical reading was carried out at a minimum or acceptable level, this analysis was based on the reasons indicated above; they do not know some synonyms in the reading which makes it difficult for them to paraphrase what the text says. Similarly, analyzing the results of the inference level, a minimum achievement is evident because some students have failures to infer the information that is implicit in the reading; On the other hand, they take a personal position on the subject, but lack an argument to support and defend their ideas in the text.
- Likewise, when they were required to make a concept map, paraphrastic summary, paragraph of argumentative typology and essay, they performed it taking into account the linguistic, psycholinguistic and sociocultural approach without any inconvenience.
- On the other hand, The reading plan implemented through the Virtual Interactive Learning Platform System -SPLAVIA- in the subject of Cátedra Tecnarista II, It was a technological aid that facilitated the correction and evaluation of the exercises.

Therefore, the feedback from the workshops allowed the application of linguistic and psycholinguistic strategies leading to the production and interpretation of texts, the productive interaction between the teacher and the student. In this sense, it is important to consider the important and transformative role that the teacher plays as a counselor, motivator of reading and writing in the integral formation of students. Hence, the students are the reflection of the teacher's training, since they develop the skills and competencies that the teacher imparts in their pedagogical work.

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