

READING COMPREHENSION STRATEGIES AND THEIR RELATION TO INDICATORS OF LEARNING PROCESS IN GENERAL SECONDARY EDUCATION STUDENTS OF THE STATE EDUCATION SYSTEM IN BAJA CALIFORNIA, MEXICO

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ABSTRACT

We present a quantitative, non-experimental, cross-sectional, correlational study. The general objective of this study is to obtain the significant relations among variables of Reading comprehension strategies and variables of the Learning process for secondary education students enrolled in the State Education System in Baja California for the 2016-2017 academic year, from the students' perception. The method used is quantitative, non-experimental, cross-sectional, and correlational. The analysis categories are strategies of reading comprehension and learning processes. In order to obtain data, we designed a structured survey based on PISA references (2000) and such survey was applied to a non-probabilistic sample of 1045 students from 11 to 16 years old enrolled in the 2016-2017 academic year, corresponding to 25 public secondary schools assigned in the State Education System of Baja California (SEE), Mexico. The data analysis technique was correlational and the Pearson (r) correlation coefficients were obtained. The data was processed in the Statistic System for Social Sciences (SPSS). The results did not show significant relations among analysis variables; the highest correlation was 0.366.

KEYWORDS: *Reading Comprehension Strategies, Learning Process, Standardized Tests*

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INTRODUCTION

The national goal in Mexico is to achieve Quality Education. The Sector Education Program 2013-2018 of the Ministry of Public Education in Mexico establishes, in order to achieve its goal, as their first objective to assure learning quality in basic education; in the second phase of this level we find the secondary studies that comprise three study years (SEP, 2013). Nonetheless, one of the problems of the Mexican Education System, among others, is the low knowledge of reading comprehension strategies (Spanish) in all education levels in Mexico (PISA, 2005). The secondary level is the second phase of basic education that the student courses. At the end of this phase, the student has covered nine schooling years and should have developed the skill of reading comprehension, which allows to develop other cognitive capabilities in order to acquire the new learning and continue to significantly learn for the rest of his life, be it on a schooled or personal environment (SEP, 2013).

Mexico has participated in standardized international evaluations since year 2000 with the Organization for Cooperation and Economic Development (OCDE); in the occasion, Mexico had the third from last place of all participating countries. In order to solve this problem, in 2001, Mexico's president Vicente Fox Quesada implemented a series of programs; among them was 'Mexico bets on reading', in which some strategies were set out in order to avoid falling behind on reading comprehension (PND, 2001).

The problem of reading comprehension does not allow the development of reading comprehension skills and the skills that teachers develop in students result, insufficient for students to use and obtain ideal results on standardized tests applied by OCDE and the Ministry of Public Education (SEP), the former responsible of issuing national regulations regarding education in Mexico (PISA, 2005).

According to the *Programme for International Student Assessment* (PISA), reading is the capacity of understanding, using the information, and reflecting based on writing texts in order to achieve individual goals, develop knowledge and personal potential, and effectively participate in society. Reading, from PISA perspective, is seen as an active process that implies not only the capacity to comprehend a text, but also to reflect about it based on ideas and own experiences (PISA, 2005).

OBJETIVES OF THE STUDY

The general objective of this study consists in obtaining the significant relations between variables of reading comprehension strategies and variables of Learning Process in secondary level students in the development of skills to use reading comprehension strategies to answer the demands of standardized tests *Plan Nacional para la Evaluación de los Aprendizajes*(PLANEA) and *Programme for International Student Assessment*(PISA) applied to students enrolled in public secondary schools of the State Education System of Baja California, Mexico in the 2016-2017 academic year.

PLAN NACIONAL PARA LA EVALUACIÓN DE LOS APRENDIZAJES (PLANEA)

The results issued by national organizations such as National Evaluation of Academic Achievements in Schools (ENLACE); nowadays, the *Plan Nacional para la Evaluación de los Aprendizajes* (PLANEA) and other international such as the *Programme for International Student Assessment*(PISA) show how far is the State Education System (SEE) of Baja California from achieving desirable levels of achievement in the area of reading comprehension, since, even though it is on the seventh place of the national rankings according to the PLANEA test results, only 6% has the level 4 that corresponds to the mastery of knowledge and skills (INEE, 2015). Many complex factors intervene in this reading comprehension issue and explain the situation in our country, such as cultural, political, social, and economic conditions; this problems revolve around the teaching job, which is related to non-creative and non-innovative pedagogic practices that are conceived by the teacher in order to generate significant learning or to keep generating learning (Solé, 2012).

According to data from the ENLACE test (PLANEA now) applied by SEP, in a constant evaluation period of eight years, most of the secondary level students continue in the rank of insufficient or elemental, despite the different strategies for the development of reading comprehension skills implemented by the Ministry of Public Education in Mexico. The results show that, between the years 2012 and 2013, there was a setback; for example, in the first secondary grade the rank 'good' for 2012 was 16.4% and in 2013 it went down to 14.3%. During the 2014-2015 academic year, there was a new standardized test named PLANEA (Plan Nacional para la Evaluación de los Aprendizajes), which came to substitute ENLACE (Evaluación Nacional de Logros Académicos en Centros Escolares) and their main

objective is to measure knowledge and skills regarding language and communication. The results are still below the desirable goal (INEE, 2007). In this case, between the years 2009-2012, the rank of insufficient decreased from 15% to 12%, but in 2015 it grew to 42%. This is prove that the strategies used to comprehend are not enough or not suitable for secondary students to answer to the cognitive demands of national standardized tests (INEE, 2015).

EVALUATION OF THE PROGRAMME FOR INTERNATIONAL STUDENT ASSESSMENT (PISA)

As for the *Programme for International Student Assessment* (PISA), this was not created to classify or grade students of a certain country, its main idea of this evaluation is to identify the general characteristics of the education system of countries in OCDE (OCDE, 2000). PISA is created based on the interest of some countries to analyze and discover strengths and opportunity areas in their education systems and their education policy specifically. Its objective is to grant data, analysis, and reports, which are shown to the society in general, but particularly to those who make decisions that correspond to affairs related to education policies. The PISA's objective is to evaluate competences or aptitudes that students must have before being 15 years old, which they will need in order to keep learning through their life. PISA evaluation includes areas that are traditionally considered important for learning, but this evaluation is not curricular, meaning, it does not only evaluate specific knowledge, but focuses on discovering skills and abilities that will be very important for students to respond to real situations on their daily life and some they will encounter on their adult life. The PISA project considers four types of situations for reading: reading for personal use, for work, for education, and public use. When evaluating reading competence, the main objective is to value the different types of reading that take place in and outside the classroom (PISA, 2005).

MAIN FACTORS THAT AFFECT READING COMPREHENSION

The inadequate use of reading comprehension strategies comes from many basic factors: not being aware of what is being read, why it being read, and for what is it being read. The fact of knowing, it is not being comprehended, is of vital importance in order to get past that. Sanz (2012) indicates that bad readers do not evaluate their own comprehension, while those who do are excellent readers. Realizing the main objective of reading (what for and why is it being read) is one of the most important meta-cognitive strategies in the process of reading comprehension.

Some of the meta-cognitive strategies recommended for a reader to be competent are as follows (Solé, 2012): first, the objectives for reading must be clear, since on some occasions the demands sought can be implicit or explicit; it is on this point where the reader must have the capacity to respond in an effective way to the tasks requested by each one. Another aspect that has to be taken into account is that a competent reader must be able to identify and discover the important aspects of the message and be able to focus his attention on it, since it may be required to respond to subsequent tasks (the word 'task' should be understood as learning goals or objectives). It is also important for the reader to put attention on an specific topic and avoid distractions on aspects that are secondary or of low relevance.

METHOD

The method of study is quantitative, non-experimental, transverse, and correlational. The categories of analysis are: reading comprehension strategies and learning processes. The variables analyzed, in the case of reading comprehension strategies (ECL), were: the knowledge on the reading comprehension strategy, the difficulty for a student when elaborating concept maps, and whether the teacher teaches ECL; as for Learning processes, the following processes were considered: the student identifies the main idea fast, can easily comprehend when reading, comprehends long texts,

can easily comprehend texts that appear in tests like PISA or PLANEA, the Spanish course teaches ECL so the student can easily learn a topic, knows the usefulness of ECL, frequency of ECL use by the teacher as a learning strategy, has made timelines to facilitate his learning, considers the usefulness of ECL to learn a topic, and the type of ECL the student considers is the most useful in order to improve his academic achievements (PISA, 2000).

In order to obtain data, we designed a structured survey based on references from PISA (2000) and following the methodology by Hernández, Fernández, and Baptista (2014), and was applied to a non-probabilistic sample of 1045 students from 11 to 16 years old enrolled in the 2016-2017 academic year, corresponding to 25 public secondary school in the State Education System of Baja California, Mexico, located within the city and urban zone in the municipalities of Mexicali, Tecate, Tijuana, Rosarito, and Ensenada; we considered first, second, and third grade students from morning, evening, and full time shifts. The analysis technique for data was correlational; the Pearson (r) correlation coefficients were obtained. The data was processed in the Statistic System for Social Sciences (SPSS).

RESULTS

We present the results derived from the analysis of the correlation between variables of *Reading comprehension strategies* (ECL) and *Learning Process* on secondary level students enrolled to the State Education System of Baja California, Mexico, corresponding to 1045 surveys applied to obtain the opinion of general public secondary schools in the State of Baja California. The sample analyzed was of 25 schools from Mexicali (21%), Tecate (12%), Tijuana (41%), Rosarito (9%), and Ensenada (17%). The data correspond to the 2016-2017 academic year. The Pearson (r) correlations are described. The significant correlation parameter was estimated to be 0.8.

Relation between the Knowledge of Strategies to Comprehend what is Being Read and the Learning Processes

The results of the correlation between variables of Knowledge of Reading Comprehension Strategies (ECL) and variables of Learning processes do not show significant relations between their indicators; the highest relation is between variables *Knowledge of Reading Comprehension Strategies (ECL) to comprehend what the student reads* and the indicator *You can identify the main idea fast* with 0.021; and with indicator *When your teachers use ECL it is easy for you to comprehend* with 0.201. It is interesting to observe that the relations of ECL with the ease of the student when comprehending texts that appear in standardized tests such as PISA or PLANEA are the lowest with 0.081 (see table 1).

Table 1: Pearson Correlation Matrix Relation between Knowledge of Reading Comprehension Strategies and the Learning Processes on General, Public, Secondary Schools Students in the State Education System of Baja California in the 2016-2017 Academic Year

Student's Learning Process		Student's Knowledge on ECL ¹ to Comprehend what he Reads
The students identify the main idea fast	r	.201**
The student can easily comprehend when reading	r	.183**
The student comprehends long texts	r	-.113**
The student can easily comprehend texts that appear in tests such as PISA ² or PLANEA ³	r	.081**
The Spanish course teacher teaches ECL that makes it easier for the student to learn a topic	r	.155**
The student knows the usefulness of ECL	r	.098**
Frequency of ECL use by the teacher as a learning strategy	r	.081**
The students had made timelines to make learning easier	r	.128**
The student considers the usefulness of ECL to learn a topic	r	.135**

Table 1 Contd.,

Student's Learning Process	r	Student's Knowledge on ECL ¹ to Comprehend what he Reads
Type of ECL that the student considers more important in order to improve his academic achievements	r	.156**
The use of ECL by teacher eases the student's learning		.201**

¹ECL, Reading Comprehension Strategies
²PISA, Programme for International Student Assessment
³PLANEA, Plan Nacional para la Evaluación de los Aprendizajes

** The correlation is significant at level 0.01 (bilateral).

* The correlation is significant at level 0.05 (bilateral).

The Difficulty for Students when Elaborating Concept Maps and its Relation to the Identification of the Main Idea in Texts

The results show that the highest relation is between the difficulty when elaborating concept maps and the identification of the main idea fast in the text by the student with 0.235; the lowest relation is with the variable: the student comprehends long texts, with -0.092 (see table 2).

Table 2: Pearson Correlation Matrix Relation between the Difficulty for the Student when Elaborating Concept Maps and the Learning Processes on General, Public, Secondary Schools Students in the State Education System of Baja California in the 2016-2017 Academic Year

Student's Learning Process	r	Difficulty in the Elaboration of Concept Maps
The students identify the main idea fast	r	.243**
The student can easily comprehend when reading	r	.188**
The student comprehends long texts	r	-.092**
The student can easily comprehend texts that appear in tests such as PISA ² or PLANEA ³	r	.110**
The Spanish course teacher teaches ECL that makes it easier for the student to learn a topic	r	.133**
The student knows the usefulness of ECL	r	.134**
Frequency of ECL use by the teacher as a learning strategy	r	.131**
The students had made timelines to make learning easier	r	.121**
The student considers the usefulness of ECL to learn a topic	r	.171**
Type of ECL that the student considers more important in order to improve his academic achievements	r	.153**
The use of ECL by teachers eases the student's learning	r	.235**

¹ECL, Reading Comprehension Strategies
²PISA, Programme for International Student Assessment
³PLANEA, Plan Nacional para la Evaluación de los Aprendizajes

** The correlation is significant at level 0.01 (bilateral).

* The correlation is significant at level 0.05 (bilateral).

Teaching Reading Comprehension Strategies by the Teacher and its Relation to the Student's Learning Process

The results show that the highest relation is between the variables: when the teacher teaches ECL frequently, which the student uses as a learning strategy with 0.329, and with its usefulness to learn a topic at 0.328; the lowest relation was with the comprehension of long texts, with -0.066 (see table 3).

Table 3: Pearson Correlation Matrix Relation between the Teacher Teaching Reading Comprehension Strategies and Learning Processes

Student's Learning Process	r	The Teacher Teaches ECL ¹
The students identify the main idea fast	r	.150**
The student can easily comprehend when reading	r	.099**
The student comprehends long texts	r	-.066*
The student can easily comprehend texts that appear in tests such as PISA ² or PLANEA ³	r	.133**
The Spanish course teacher teaches ECL that makes it easier for the student to learn a topic	r	.266**
The student knows the usefulness of ECL	r	.134**
Frequency of ECL use by the teacher as a learning strategy	r	.329**
The students had made timelines to make learning easier	r	.218**
The student considers the usefulness of ECL to learn a topic	r	.328**
Type of ECL that the student considers more important in order to improve his academic achievements	r	.085**
The use of ECL by teachers eases the student's learning	r	.297**

CONCLUSIONS

The results of the analysis do not show significant relations between variables of reading comprehension strategies and variables of learning processes. No relation is at 0.8, all of them are below 0.5. The highest correlation was between the variables that the teacher teaches ECL frequently, which the student uses as a learning strategy at 0.329; the lowest was with the comprehension of long texts, at -0.066. It is interesting to observe there is not any significant relation between the Reading Comprehension Strategies and the ease of the student to comprehend texts that appear in standardized tests such as PISA or PLANEA, which are applied at a national and international level, which makes us reflect that one of the issues the students present when elaborating this test is they do not comprehend what is being asked, which could be the cause of the low level in their answers.

The aforementioned lead us to conclude that, on the analyzed sample, there is no evidence to consider that the strategies to develop reading competence on students in general public secondary schools in the State Education System of Baja California significantly impact in their learning process. Additionally, there is evidence that secondary students have a limited knowledge regarding the use and usefulness of ECL in order to comprehend what they read.

It is recommended for actors implied in the learning process of reading comprehension strategies to verify their application in order to be able to answer to the national and international standards requested by tests such as PISA and PLANEA to achieve better results.

It is also recommended to establish actions to the habilitation of teachers on learning, comprehension, and monitoring techniques for students to manage reading comprehension strategies at secondary level education

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