Strategy for developing the written communication in university students

Estrategia para el desarrollo de la comunicación escrita en estudiantes universitarios

改善大学生书面交流的策略

Стратегия развития письменной коммуникации у студентов университета

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Abstract

This work addresses the strengths and limitations of written communication in university students. A strategy for developing the written communication was implemented, which result was validated through an experiment. This work aims to evaluate the results obtained from the strategy for improving the written communication in students of Basic Education career. The aforementioned strategy's effectiveness was evidenced where greater academic performance in learning and intellectual development was achieved. The scientific experiment, scientific measurement, document and content analysis methods were used. Data were analyzed through the application of descriptive and inferential statistical methods to demonstrate the hypothesis that allowed to validate the applied teaching strategy. The theoretical methods used were: the comparative method, the hypothetical deductive, the scientific modeling, and the functional structural system. Among the most significant results are the strengthening of written communication learning, and increase of teaching results, levels of motivation, and the interest in learning.

Keywords: written communication strategy, implicit theory, principles of writing, communication and learning.

Resumen

El presente trabajo aborda las fortalezas y limitaciones de la comunicación escrita en los estudiantes universitarios. Se implementó una estrategia para el desarrollo de la comunicación escrita, cuyo resultado fue validado a través de un experimento. El presente trabajo tiene como objetivo evaluar los resultados obtenidos de la estrategia para el perfeccionamiento de la comunicación escrita en los estudiantes de la carrera de Enseñanza Básica. Se evidenció la efectividad de la mencionada estrategia donde se logra un mayor rendimiento académico en el aprendizaje y en el desarrollo intelectual. Entre los métodos empleados se sitúan el experimento científico, la medición científica, el análisis de documentos y de contenidos. Los datos se analizaron mediante la aplicación de métodos estadísticos descriptivos e inferencial, para demostrar la hipótesis que permitió validar la estrategia de enseñanza empleada. Los métodos teóricos se utilizaron fueron: el método comparativo, el hipotético deductivo, la modelación científica y el sistémico estructural funcional. Entre los resultados más significativos se sitúan la potencialización del aprendizaje de la comunicación escrita, elevando los resultados docentes, los niveles de motivación e interés en el aprendizaje.

Palabras clave: Estrategia de comunicación escrita, teoría implícita, principios de la escritura, comunicación y aprendizaje.

摘要

本文讨论了大学生书面交流的优点和局限性。实施了一个改善书面交流的策略，并通过实验验证其结果。目的是评估本科学生从该策略中获得书面交流改善的结果。该策略对在学习和智力发展方面取得更高成绩上表现出有效性并得到证实。本研究使用方法包括科学实验，科学测量，以及文档和内容分析。通过使用描述性和推论统计方法对数据进行分析证明假设，从而验证所使用的教学策略。使用的理论方法为：比较方法，演绎假设，科学建模和功能结构体系。研究结果突出表明了提高教学效果以及学习动机和兴趣水平对书面交流学习的潜力的影响。

关键词: 书面交流策略, 隐性理论, 写作原则,交流和学习。

Аннотация

В данной статье рассматриваются сильные и слабые стороны письменной коммуникации у студентов университета. Была реализована стратегия развития письменной коммуникации, результат которой был подтвержден в ходе эксперимента. Цель - оценить результаты, полученные в ходе реализации стратегии по улучшению письменной коммуникации у учащихся начальной школы. Эффективность указанной стратегии была подтверждена более высокими академическими показателями в обучении и интеллектуальном развитии. Среди используемых методов - научный эксперимент, научное измерение, анализ документов и содержания. Данные были проанализированы с применением описательных и инференциальных статистических методов для доказательства гипотезы, что позволило подтвердить используемую стратегию обучения. В качестве теоретических методов были использованы: сравнительный метод, дедуктивно-гипотетический метод, научное моделирование и системный структурно-функциональный метод. Из полученных результатов наиболее значимыми являются потенцирование обучения письменной коммуникации, повышение результатов обучения, а также уровня мотивации и интереса к обучению.

Ключевые слова: стратегия письменной коммуникации, неявная теория, принципы письма, коммуникация и обучение.

Introduction

Communication is considered as one of the fundamental processes of the teaching process, an indispensable condition for the exchange of ideas, feelings, emotions, interests, motivations, opinions, points of view, experiences, scientific knowledge in the different branches of science and it is the basis for reaching agreements between a certain group of people. Communication has a universal intervention; it is difficult to find social processes between people that are external to the exchange of ideas.

In education, communication between the different actors that intervene in it is essential, mainly between teachers and students, this implies the implementation of adequate communication strategies, either orally or in writing. In the different tendencies of the teaching process, throughout its history, it has been revealed at different levels the understanding of learning as a complex multifactorial and intersubjective human process, mediated by the praxis of man, which constitutes its principle, base and foundation, evidencing its social nature, for which communication is a necessity for human beings, for their existence and development (Errázuriz, 2014).

Errázuriz (2017) considers that education, at present, is oriented to the person, in the integral development of their personality, communication with authoritarian traits is external to it, where the student is only object of learning. This communication, in the educational field, considers the student the subject and object of learning, capable of managing knowledge, with critical and creative thinking, capable of solving problems. In this communicative process, in teaching the fundamental actors have a high level of interest and motivation. (p.9)

In this sense, there is a need for students of any level of education and in particular, in University Education, to have a high level in the development of both oral and written communication skills. There is unanimity in considering as necessary and essential the education of the subject in the formation of communication skills.

Good learning requires the development of a high level of communication. Understanding learning as a communication process implies the interaction in the teaching process teacher - student and student - student, as essential actors in the process of building (González et al., 2015).

Communication favors the construction of knowledge under the following conditions: the existence of an interactive climate healthy based on respect, trust, motivation, teamwork and tolerance; the construction of knowledge is carried out through communication marked by research and critical reflection; the interaction must guarantee the continuity of the process of construction of knowledge in the individual (Aguilar et al., 2016).

In current teaching, the teaching process is developed through the interaction between teacher and student and between students. For these reasons, teaching processes constitute par excellence a communication space in the pedagogical field (Errázuriz, 2017). Teaching is impossible without a communication process. One of the essential and universal functions of education is transmit from generation to generation, all the tradition, history, knowledge and culture in general of the development achieved by humanity throughout its existence. This heritage can only be transmitted through the communication process.

The essential function of teaching activity is to establish the appropriate correlation between the knowledge provided by the teacher and the knowledge of the student, inextricably linked to the process of active communication and communication, in this order interpersonal relationships constitute an essential component of the teaching process and they confer sui generis characteristics.

Teacher's personality has a significant impact on the relationships he/she maintains with his/her students in the organization of the teaching process. The use of teaching methods, discipline and learning evaluation depend, to a great extent, on the teaching skills, experience and education of the teacher as mediator. This implies traits such as neutrality, ease of communication, ability to listen and understand, resources to solve problems (González et al., 2015).

The educational value of communication is unquestionable, men are educated in the communication process, sharing knowledge, socializing knowledge and learning through communication in any of its forms, in human interaction communication process is mandatory.

Communication in the educational process demands the need for the teacher to exhibit a set of communication skills, that allow understanding between people, the importance of this competence exceeds the limits of communication in the teaching process. In the teaching process, oral and written communication is as important, the latter is a complex action, which implies that the writer has knowledge, basic skills, strategies and the ability to coordinate a set of processes (Aguilar et al., 2016, p.16).

That is why, from the theoretical perspective, the study is based on the so-called implicit theory, the previous analysis is based on the fact that the limitations around writing are included in the aforementioned theory. Its basic objective is to know the way in which individuals conceive the writing process. The theory reflects people's behavior towards writing.

The implicit theory classifies writing into three levels: receptive-reproductive theory, where the prose writer exposes his knowledge without taking into account the set of rules or principles referring to correct and elegant writing or the recipient, in addi-

tion, does not express their views or personal conception; the pre-constructive theory, highlights the marked intention of the writer, to carry out a renovating creative writing, but it does not manage to obtain the knowledge, and the third type, the constructive theory, is a creative complex conception, its use implies the mastery of the different variables to take into account in the writing of the text such as the rules and norms of correct writing, the characteristics of the recipient, a lexicon according to the recipient, the appropriate use of information and its conversion into knowledge and making corrections in their entirety (Hernández 2012, p.10-12).

In the study it is evident that the significant majority of the students under study are located in the first level of the implicit theory, the receptive – reproductive theory, where they only receive and reproduce the information, elaborating a text with limitations in clarity of the ideas, precision in writing, power of synthesis, naturalness in the writing of the text, use of courtesy rules, consider the characteristics of the recipient that includes a vocabulary according to the recipient, the proper use of information and its conversion into knowledge and of making corrections in their entirety (Makuc, 2011).

This work shows that it is possible that the student, through an adequate strategy, can go from the receptive-reproductive level to a constructive level with a high creative and transforming level. It should be noted that communication difficulties are associated with deficiencies in the understanding and production of language not developed from initial education, which are revealed in basic and university education and have a negative impact on later professional performance.

Written communication has advantages and disadvantages that must be taken into account for a better understanding of the problem under analysis. Miras et al. (2013) highlight among its advantages the following:

> Permanence, writing lasts over time and can be used at any time, it can be preserved, in libraries, computer media, published in books, notes, comments, articles, among others; it allows you to reflect before writing, you can think, define well what that you want to express before drafting it definitively in a document to later use it and can be registered in the information media, as it becomes a source of consultation, for such reasons it can always be used later as an information medium, as it is permanent. (p.6)

Written communication also has disadvantages; among which we can mention: the lack of immediate feedback. In this sense, Miras et al. (2013) estimate that a wrong interpretation of the message can be generated, as there is no one to explain the message of the information or its content, so it lends itself to other interpretations regardless of the actual content; low level of interdependence, that is, it is one of the forms of communication in which the interaction between people is considerably limited, thus generating a certain tendency to isolation.

These limitations of written communication have a notable impact on the academic result of students, causing it not to reach, on occasions, the levels of development necessary in university education, we do take into account that it is one of the ways through which the students present their ideas, opinions, scientific results, perform calculations, plan, evaluate their knowledge and express the solution to problems. In the scientific literature on the subject, Errazuriz et al. (2015), have established, in a general way, a set of fundamental features to take into account in proper written communication:

- Clarity of ideas: This is a quality of written communication that generates perception through the senses of the message to be expressed, where the logical operations of thinking also intervene. It means writing with a transparent, understandable, direct thinking with the precise concepts. It implies a clean, correct and understandable writing, taking into account the grammar and spelling rules.

- Precision in writing: It implies determination, rigorous accuracy, conciseness, brevity and precision in the expression of concepts and ideas, which means using only the words that are precise and necessary to express the desired message, is to express the thinking with the fewer words, without redundancies or unnecessary repetitions.

- Power of synthesis: It is to express the most important, fundamental, essential and general in the writing of the text, it is a process linked to the logical operations of thinking: analysis-synthesis, induction-deduction, comparison, generalization, comparison, among others.

- Naturalness in the writing of the text: It means using a common written language accessible to all, without elaborate words appropriate to the characteristics of the reader.

In the research process, the features linked to the implicit theory of writing, mentioned in advance, constituted the variables through which the abilities of the students under study were measured, before and after applying the development strategy of written communication. In this direction, pre-measurement also fulfilled the function of diagnosing the level achieved by students in the domain of written communication.

The limitations detected in the written communication, through the pre-measurement, made to the students were the following: they did not show clarity in the ideas, they showed a low level of precision, rigorous accuracy, conciseness, brevity in the expression of the concepts and the ideas, difficulties in determining what is most important, fundamental and essential in the writing of the text, with a low command of the logical operations of thought.

Methods

To evaluate the significant effect of the strategy for developing the students' written communication, the strategy of written communication development was established as independent variable and written communication as dependent variable. A pre-experiment was carried out with the following characteristics: randomness, variable control, and systematic repetition; where 3 experiment groups (EG) participated, made of 33 students and one control group (CG) of 33 students, randomly selected. The procedure was the same one used to calculate the sample size for finite populations in the pre-measurement (Martínez, 2000).

In the pre-experiment, the students were asked to make a written composition, on a topic oriented in advance, then the composition was analyzed by three experts with an average coefficient of competence considered high of 87 points, through an analysis guide of content. The aforementioned guide was determined to have a high validity level of .91. Results could be evidenced in the different variables that make up the written communication variable.

The sample size was calculated through the formula: $n=z^2*p*q*N/e^2*(N-1)+z^2*p*q$, where Z is the normal distribution under the curve, (p) is the probability of success and (q) is the probability of not success and (e) is the error, it was calculated for a probability of success of 95% and an error of 5%. Obtaining, $n = 4^2 * 50 * 50 * 260/25^2 * (260 -1) + 4^2 * 50 * 50 = 2600000/16475 = 158$, to apply the formula to correct the sample size obtained from 158, nc (corrected sample size), $nc = n / 1 + (n / N) = (158 / (154/260) +1) = 99$, so the size of the sample to study was 99 students, distributed in three parallels subjected to the experiment each corresponded to 33 students. The control group was made up of 33 students, taken at random from the other groups that were not selected to make up the three experimental groups (Hernández et al., 2014).

The experimental groups underwent a pre-measurement, before applying the strategy to improve written communication, and another post-measurement once the strategy was applied, if the results in the post-measurement are superior to those of the pre-measurement, it can be stated that the strategy significantly raised the written communication skills of the students of the aforementioned career. The control group allowed to establish the measure of the influence of foreign variables influenced the results of the experiment and if the experimental conditions remained constant.

To carry out the measurements, the variables declared in the diagnosis were taken into account: Clarity in ideas, precision in writing and ability to synthesize naturalness and courtesy in writing. The free composition writing instrument was applied to them, studied in advance and through the document analysis method, the measurement of the variables was carried out in the students under study. The experts validated a guide for document analysis that was the same as the one used in the diagnosis, the experts who participated were the same of the mentioned pre-measurement, all with a high level of reliability.

To establish the significant differences between before and after applying the strategy, the non-parametric statistical test of Wilcoxon signs was used. Each EG is considered a pre-experimental replica.

The experimental model of Martinez et al. (2000) was used:

Table 1

Experimental design model

Pre-measurement Strategy Post-measurement
GE(a) X GE(a)
GE(b) X GE(b)
GE(c) X GE(c)
GC GC

Note. Taken from *Methodology of scientific research. People and education* (p.120), by R. Martínez, 2000.

The Strategy for the improvement of applied written communication consisted of the following:

Activities aimed at the development of written communication in students were implemented, aimed at modifying the aforementioned variables: Clarity in ideas, precision in writing and ability to synthesize naturally and courtesy, the activities were: Develop-

ment in students of reading habits; development in students information management skills and knowledge on topics of interest; preparation of guides for the writing of texts with instructions for the development of logical thinking skills that included workshops for the evaluation of said skills; realization of reference works for its presentation; construction of texts in a systematic way, the texts written by the student were evaluated by himself (self-evaluation), among his classmates (co-evaluation), teacher evaluation, and expert evaluation.

Analysis and results

The hypothesis to be validated in the pre-experiment is the following:

A strategy aimed at mastering skills related to: clarity of ideas, precision in writing, power of synthesis, naturalness in the writing of the text and the use of courtesy rules will significantly affect the development of the students' written communication.

To establish the impact of the strategy on the development of written communication, the pre-experiment started from an initial pre-measurement carried out at the 3 EG and at the CG, this allowed it to be compared with the post-measurement, once the strategy had been applied. The pre-measurement yielded the following results per variables:

> Regarding the clarity of ideas variable, 78 students of the 99 objects of analysis (80%) did not show clarity in their ideas, the remaining 20% (20) did demonstrate clarity, with a text with a transparent, understandable, direct thinking, with precise concepts, a clean, correct and understandable writing, taking into account the grammar and spelling rules.

Regarding the variable precision in writing, of the totality of the random sample studied, 69 (70%), showed a low level of precision, rigorous accuracy, conciseness, brevity in the expression of concepts and ideas, with a significant number of unnecessary, redundant and repetitive words. The remaining 29 (30%) did showed an adequate level of precision in their written composition.

Regarding the power synthesis variable, of the compositions analyzed, 88 of the students (90%), showed difficulties in determining the most important, fundamental and essential in the writing of the text, with a low command of the logical operations of thinking: analysis - synthesis, induction - deduction, comparison, generalization, comparison, among others, the remaining 10 students (10%) demonstrated an acceptable level of synthesis power.

The results in the diagnosis of the variables naturalness in the writing of the text and use of courtesy rules in writing, showed that in general, the students showed adequate behavior in writing in relation to these variables. In the naturalness variable, 88% (90) indicated a natural behavior in writing. Only in 10% (10), the behavior of the variable was not adequate. With the courtesy variable, 95% of the students (93), showed respect, consideration, courtesy, simplicity and education in the writing, only 5 students (5%) did not reflect the existence of the aforementioned traits in their writing.

It can be affirmed that the students under study reflect serious difficulties in written communication regarding the domain of written communication, they show little clarity in the ideas, precision in writing and synthesis capacity, this is a generalized

problem in, greater or lower degree, that exists in a large part of the university student population, not only at the Basic Education career.

Spss version 20 was used to perform the analysis and interpretation of the results, using the Wilcoxon signs hypothesis test, for 95% reliability and a significance level of α= .05. The hypotheses tested were: H_0: There are no differences between pre-measurements and post-measurements in the experiment group, and H_1: There are differences between pre-measurements and post-measurements in the experiment group.

Statistical decision to take: If the Pv (Pvalue) < α (level of significance), H_0 is rejected and H1 is accepted; if Pv (Pvalue) > α (level of significance), H_0 is accepted and H1 is rejected.

Table 2

Behavior of the results obtained in the groups that submitted to the experiment, according to Spss.

Group/ Variable Grupo/	GE(a)				GE(b)				GE(c)				GC			
	Before	After	Dif.	P.V	Before	After	Dif.	P.V	Before	After	Dif.	P.V	Before	After	Dif.	P.V
V1: Clarity of ideas	13	23	11	.01	12	23	11	.048	15	23	8	.037	13	15	2	.8
V2: Writing precision	14	21	7	.04	13	24	11	.042	14	23	9	.0088	17	15	-2	.61
V3: Synthesis power	14	24	10	.0088	13	21	8	.043	12	21	9	.022	19	20	1	.79
V4: Naturalness in the writing of the text	22	28	6	.045	16	24	8	.033	18	27	9	.0087	27	26	1	.71
V5: Rules of courtesy in writing	24	28	4	.023	17	25	8	.023	19	28	9	.0056	28	29	1	.61

Note. Results obtained through the statistical processor Spss. Version. 20, the application of the Wilcoxon sign tes, to establish significant differences between before and after once the strategy has been applied in the EG.

The result of the experimental application of the strategy in the EG group (a), when comparing the before and after, the variable V1 (Clarity of ideas), where the null hypothesis H_0 was subjected to statistical verification (there are no differences between pre-measurements and post-measurements in EG (a) and alternative H_1 (if there are differences between pre-measurements and post-measurements in EG (a), using Spss ver. 20 for its analysis, a Pv = 0 was obtained, 01, as it is less than the level of significance α = .05, for 95% reliability the statistical decision was made to reject H_0 and accept H_1, so it can be stated that there are significant differences between the pre-measurements and the Post-measurements in experimental group This means that the strategy for improving the written communication, in relation to the analyzed variable was successful.

Regarding the behavior of the variable V2 (Precision in writing), in the group EG (a) when comparing the before and after, taking into account the null hypotheses H_0 (there are no differences between the pre-measurements and the post-measurements in the EG (a) and alternative H_1 (if there are differences between pre-measurements and post-measurements in EG (a), a Pv = .04 was obtained, as it is less than the level of significance α = .05, for a 95% Reliability, the statistical decision was made to reject H_0 and accept H_1, so it can be affirmed that there are significant differences between pre-measurements and post-measurements in the experimental group. This confirms that the strategy for improving the written communication, in relation to the analyzed variable, was successful.

Regarding the variable V3 (Power of synthesis), in the EG group (a) when comparing the before and after, taking into account the null hypotheses H_0 (there are no differences between the pre-measurements and the post-measurements in the EG group (a) and alternative H_1 (if there are differences between pre-measurements and post-measurements in the group EG (a). According to the table, a Pv = .0088 was obtained, as it is less than the level of significance α = .05, for a 95% reliability, the statistical decision was made to reject H_0 and accept H_1, so it can be affirmed that there are significant differences between pre-measurements and post-measurements in the experimental group. This shows that the strategy for improving the written communication was successful, with respect to the studied variable.

The result obtained according to the pre-experiment of the strategy shows that in the group EG (a) in the variable V4 (Naturalness in the writing of the text), when comparing the before and after, taking into account the null hypotheses H_0 (there is no differences between pre-measurements and post-measurements in group EG (a) and alternative H_1 (if there are differences between pre-measurements and post-measurements in group EG (a)). As the table above shows, a Pv = .045 was obtained, as it is less than the significance level α = .05, for a 95% reliability, the statistical decision was made to reject H_0 and accept H_1, so it can be stated that there are significant differences between the pre-measurements and the post-measurements in experimental group. This implies that the strategy for improving the written communication, regarding the analyzed variable, significantly favored the development of naturalness in the writing of the text.

The result obtained according to the experiment, showed that in the group EG (a) in the variable V5 (rules of courtesy in writing, when comparing the before and after, taking into account the null hypotheses H_0 (there are no differences between the pre-measurements and post-measurements in group EG (a) and alternative H_1 (there are differences between pre-measurements and post-measurements in group GE (a). A Pv = .023 was obtained, as it is less than the significance level α = .05, for a 95% reliability, the statistical decision was made to reject H_0 and accept H_1, so it can be stated that there are significant differences between pre-measurements and post-measurements in the experimental group. This means that the strategy for improving the written communication in relation to the use of courtesy standards in writing caused significant favorable changes in students.

With regard to the experimental groups EG (b) and EG (c), considered replicates of the experiment, all the variables analyzed, according to the table above, had a similar behavior to the previous one where a significant difference was evidenced in relation to before and after, the Pv < values are lower than those of the α level of significance, thus rejecting H_0 and accepting H_1, which implies that there is a significant difference between pre-measurement and post-measurement in the variables studied in each

experimental group. Which means that the strategy for written communication was successful.

Regarding the validity of the experiment, the results shown in the table reflect that in the CG control group, to which the strategy was not applied, the measurements in the before and after, applying the Wilcoxon signs test, show that there is no significant difference between post-measurement and pre-measurement in the variables studied. For example, variable V1 (Clarity of ideas), where the null hypothesis H_0 was statistically tested (there are no differences between pre-measurements and post-measurements in EG (a) and alternative H_1 (there are differences between the post-measurement and pre-measurement in EG (a), a Pv = .80 was obtained, as it is greater than the level of significance α = .05, for 95% reliability, the statistical decision was made to reject H_1 and accept H_0, so it can be stated that there are no significant differences between pre-measurements and post-measurements in the CG control group. In the control group the other variables have a similar behavior in the statistical analysis. This means that the experimental conditions remained constant, thus not showing influence of external or foreign variables in the experiment, implying that it has an adequate level of reliability. The other variables have a similar behavior, not showing significant difference between both measurements.

Conclusions and discussion

The implicit theory allows to adequately explain the behavior of students in the process of written communication, establishing several levels in which the different degrees of skills achieved by students are reflected, facilitating, in turn, a better characterization of them and the limitations and strengths students have in the area of written communication.

The pre-experiment showed that significant achievements can be achieved with an adequate strategy for developing the written communication, modifying the limitations in writing, an aspect that affects, in turn, the students' performance.

The results show that the Strategy for the improvement of written communication generated significant changes in the written communication of students subjected to the pre-experiment, so it can be affirmed that it is effective. According to the implicit theory, the students went from a receptive-reproductive level to a pre-constructive level, with the writer assuming a critical position, with a marked improvement in the use of writing standards and the basic principles of written communication.

Regarding the variable (Clarity of ideas), the pre-measurement, showed a low level of students with this ability in the three GE (a, b, c. Then, in the post-measurement, a significant increase in students was observed in all three groups, with a writing where the clarity of ideas is significant, when applying the strategy.

The majority of students wrote with transparent, understandable, and direct thinking, using precise concepts, with clean and understandable writing, taking into account grammar and spelling rules. The strategy developed activities such as: reading habit increase; significant care with all types of writing they do, including writing in electronic media; reading several times what is written; demonstrating mastery of the spelling and grammar rules, verifying the correctness writing by different means, triangulation, and constant writing practice (dictations, composition, writing stories, among others).

Regarding the variable (Power of synthesis), a low level of students with this ability was reflected in the pre-measurement in the three EGs (a, b, c), however, in the post-measurement there was a significant increase in students, in the three groups, with a writing where it was revealed that they can only synthesize one content, if they understand it. An adequate synthesis is a reflection that content is well understood. It means discerning what is important from what is not and a deep understanding and interpretation of the content. This ability says a lot about the development of the student's thinking and culture.

The results of this pre-experiment can be extended to other careers and forms of communication, considering the traits of the students in relation to the form of communication to be studied and the socio-cultural factors that affect the dependent variable in the object of study. In the pre-experiment, an acceptable control of variables was achieved in the control group. It is possible to affirm that it was sufficiently reliable; however, it is recommended to continue improving the experimental method.

In the annals of educational sciences, the existence of a scientific experiment or pre-experiment around the use of strategies for developing the written communication in university students has not been verified, which gives the present study a level of originality and scientific novelty, which results can be used in teaching by teachers and as study material for students of education careers and others related.

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