

Successful Classroom Practices: A Transversal Experience from play, playfulness to support processes in the areas of Language and Mathematics.

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Summary

The development of successful classroom practices is the main axis of this study. A transversal experience is proposed, based on the dynamics between language and mathematics. The integrated view between both areas allows us to assess and detect common patterns that manifest themselves in different ways, but pursue the same objective: to provide significant learning for the student, guiding him to solve concrete problems of reality. The selection of these practices arises from the exploration of various strategies and resources provided by educational

establishments. In particular, in the area of language, those that favor an adequate and favorable interaction for the student are identified, allowing him to achieve the proposed goals. In order not to present isolated results from the general data set, a quantitative and qualitative analysis has been applied, with the help of strategies based on the design of a matrix that allows the opinions of those who argue and those who accept to be crossed, in addition to other indicators of discourse.

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1. Introduction

Classroom practices are the axis around which teaching activities revolve; they can be considered to be oriented to the teaching and learning process. Its achievement is predicted by different variables, but one of the most influential is the student and their learning (Cordones et al., 2024). The achievement of the latter depends on another group of variables, including the effect of learning in a given area on the others. In this sense, the relevance of a transversal experience is analyzed, specifically between the language area and classmates at the level of the mathematics area; It was observed how good language learning impacts the development of concepts in other areas.

These approaches configure the general scope of successful classroom practices, applied to a transversal experience from language to mathematics. The possible impact that integrated learning can have will also allow us to know, in a more general way, the variables that influence the achievement of successful teaching and learning practices.

2. Theoretical Framework

More and more, teachers and professors are sharing resources, ideas on how to carry out transversal learning in several areas, including language and mathematics that supports learning in the classroom in any school. With this, successful classroom practices are achieved. Such an approach places classroom practices at the center of research to determine which ones contribute to the

motivation, participation, and concentration of students in the first cycle of basic education in the area of language (Andrade Díaz, 2024).

Through a study with a non-experimental, cross-sectional correlational design, using surveys and observation to collect information, it was established that classroom practices related to problem solving motivate, invite participation and keep students focused and focused on learning content. The findings show that cross-curricular learning between language and mathematics leads to successful classroom practices.

2.1. Key Concepts in Education

Nowadays, new challenges are faced in the educational area, which gives rise to new approaches and ideas to prepare students who adapt easily to the complexity of different moments in life. In the social environment where learning subjects develop, it is shown that one of the most important factors is interdisciplinarity (González Muñoz, 2024). It can be perceived that people tend to see a problem from a very limited point of view, so the solution is also weak and insignificant. To have an up-to-date critical judgment, it is necessary to solve problems with an interdisciplinary approach, in addition to seeing the positive and negative aspects of each problem according to various points of view. The results of this conclusion demonstrate that, in order to obtain an interdisciplinary approach through learning, interdisciplinary learning is more beneficial for students. Students can strengthen their ability to analyze various possibilities before solving a problem by considering different points of view.

Therefore, the transversal experience from language and mathematics is developed with successful classroom practices to analyze and show that the ideas and practices of each area are integrated in order to make learning much better and more meaningful (Prieto et al., 2024). In the area of language, students' difficulties are mainly associated with reading comprehension and oral expression, which is a relevant factor that determines low performance in the different subjects, because without the ability to solve, understand and/or argue different situations of daily and academic life, the student is restricted in their ability to analyze or even make different decisions and points of view.

2.2. Interdisciplinarity in Learning

Classrooms with children with special educational needs have different types of social interactions. For those of us who try to support their development, it is key to investigate the degree to which these interactions reflect collaboration in the performance of school tasks. In addition, despite the recognized value of interdisciplinarity between teaching and learning processes, school activities in the areas of language and mathematics are usually organized independently. For this reason, some educational needs linked to the comprehension and production of texts are developed in one area or the other, which hinders the acquisition of significant learning (Cabana Diaz). Consequently, the work proposes to carry out a transversal experience between language and mathematics, through which it is sought that students understand notions of the field of mathematics and use them with language to express ideas, emotions, among others. In the same sense, based on the needs of language learning, concepts of mathematics are explained. Likewise, aspects of formative assessment are integrated to seek the greatest possible amount of learning and at the same time promote metacognitive skills.

At the formal level, the way of organizing and integrating teaching can be differentiated into three forms: intradisciplinarity, linked to an area of knowledge that is usually perceived as something isolated, independent and contains a process of reform; interdisciplinarity, which refers to a process of communication, coordination and connection between various areas of knowledge through collaboration and interaction; and transdisciplinarity, which implies a complete integration between areas of knowledge that can be included within complex topics and daily life. The objectives of transdisciplinarity are common and the teaching process is usually organic.

3. Methodology

The study seeks to evidence successful classroom practices from the area of Language and Mathematics that favor student learning. The research answers the question: What effective practices can be implemented from the area of Language that promote transversality towards mathematics? The proposal is based on quantitative-quantitative research. 18 students and two teachers from the mathematics area of the

Loperena Educational Institution in the city of Valledupar_Cesar were selected. The data collection techniques were the survey and the interview.

The meeting of the language area with the mathematics area offers a transversal view that allows common objectives to be established and enriches learning. Interdisciplinary learning offers knowledge of the multiple dimensions of being, providing greater possibilities for learning. The interaction between subjects helps to create new links, facilitating the retention of information and achieving relevant learning for students. During the research, the survey was used to identify the students' prior knowledge and interest, while the directed interview technique allowed the teachers' needs to be assessed.

3.1. Research Design

Research design is the basis for investigating and exploring the characteristics, properties or features of the context and the subjects, with the purpose of answering a question, explanation, generalization or to predict a certain phenomenon. Research design must provide solutions to problems in a way that is efficient, clear, and reliable. There are different designs, each with specific techniques that guide the direction and nature of the answers to a question asked. Each researcher must consider which design provides the necessary techniques to obtain the answers that are required (Olmedo-Flores et al., 2024). In this study, the exploratory design was used, which allowed looking at reality from a specific angle, by answering the question with which the process of inquiry and reflection was opened.

For a quantitative analysis of the responses, the survey technique was used and, for the qualitative part, the content analysis. The combination of both techniques provides a richer view of the object being explored. The survey made it possible to analyze the responses issued. Subsequently, to provide a different vision, a qualitative content analysis was carried out. This involved transforming the answers into units of information to establish categories, in order to see to what extent the participants agreed with the hypothesis. Both techniques were selected to know the opinion of the students about the application of successful classroom practices in the subject of Language, since this constitutes the basis for understanding mathematics in the learning process.

3.2. Data Collection Techniques

In the applied descriptive study, various data collection techniques were used to determine which classroom practices carried out in the area of language could be applied in the construction of knowledge in mathematics, in order to show that learning is more significant when the different contents delivered by the different subjects are linked. The combination of techniques made it possible to evaluate the impact of these strategies on students.

The techniques used were: documentary analysis, to identify which language practices of the school were used in the work of mathematics; survey, to find out the students' opinion regarding whether they perceived the complementarity between the subjects, what strategies they discovered through the mathematics workshops and which they found successful in complementing both areas; and the application of successful practical work, which consisted of a text in the language area with questions addressed, answered and analyzed under the theme of the mathematics area.

4. Context of the Research

The context of the research is defined according to the place, time and population with which the problem develops. Therefore, the research is carried out in the area of Language, Gender and Interculturality, with the purpose of highlighting the transversalization that it proposes with the area of mathematics. Enrollment is established based on the experience of sixth grade students. From this perspective, the objective is to determine specific practices that optimize students' school performance. Different studies contemplate the influence that the area of Language exerts on other areas of knowledge. For example, Obermeyer and Hernández affirm that not only do written and oral activities create habits that are suitable for the development of general learning, but also that the fact of reading constantly improves the learning of other subjects, since it helps comprehension and analysis.

Regarding the impact of the transversal experience between Language and Mathematics, it should be noted that it not only facilitates the learning of certain topics, but also contributes to the development of important social skills, such as teamwork, collaboration and respect. Moreno stresses that art and science are ways

of representing and making sense of reality, and that they are built through social interaction. Thus, in this project the key topics come from the area of mathematics; therefore, it is relevant to establish an orderly data collection process. The selection of the most appropriate techniques is due to their ability to generate the required information, which in turn gives greater validity to the subsequent results.

4.1. Description of the Educational Environment

A transversal experience from Language to mathematics. Identify a successful practice. [...] The previous conception takes on a new dimension when it contemplates that learning in mathematics must be in permanent connection with that carried out in Language and Communication. Science is precisely an area of human endeavor, and language is a skill that allows human beings to communicate for the purpose of organizing and sharing information. Thus, its relevance is a tool to facilitate learning in all areas of the school curriculum.

Classroom practices are considered successful because, during their development, the student is able to identify study variables, with their respective functional classification; in addition, he can characterize each one with its specific property, and also makes use of language skills, such as describing, comparing, arguing and exposing ideas. The capacity for relationship, experimentation and reflection typical of the subject of mathematics is strengthened through a practice planned from the area of Language and Communication. In the same vein, a high performance of the student in tests and controls is appreciated.

4.2. Profile of Participants

A second questionnaire is based on the chronicle stories and delves into the level of involvement of the students participating in the activities. It addresses aspects such as the perception of reflection and learning, the assessment of leadership, the evaluation of work environments and the effectiveness of cross-disciplinary work between the school and the university. It is applied to 9 students who serve as a control group, since one of the sixth grade courses is the subjective profile of students who participate in these Conferences.

The data is collected through questionnaires containing questions and answers, the purpose of which is to collect information on the degree of involvement

of students in the activities. The participants come from the sixth grade and are being evaluated by 2 students in the last semester of the bachelor's degrees involved from the Popular University of Cesar, together with their advisors; in total, 18 students. The first cycle group corresponds to students who have not participated in the Conference, while the second cycle group has collaborated.

5. Successful Classroom Practices

The more interdisciplinarity and transversality is allowed to be applied within the subjects, the participants can have a broader vision and context of the content they are studying (Sarmiento Pérez). Research can be transformed into successful work that can be repeated and can serve as inspiration for employees. Successful classroom practice is defined as the set of techniques, procedures and activities applied to a particular group of students, in a given time, which significantly enhance learning and deconstruction in an area of knowledge. The general principle that governs successful classroom practices is transversal learning through the combination of linked or closely related subjects. The respective analysis evaluated is of a general nature, so it was presented by different groups.

Another way to improve student performance is to enable the connection and correlation between related areas and subjects. A transversal experience from language and mathematics is currently being applied to first-year students in the sixth grade of the Loperena Educational Institution. Successful classroom practices in the language area are being applied that facilitate learning in the area of mathematics. Previous first-year results contribute to better performance in first-semester, second-year, and consecutive subjects.

5.1. Language Teaching Strategies

Many studies carried out in the area of education allow us to observe the importance and convenience of learning between disciplines, which is why, in some educational systems, teaching is organized towards the methodological (Vergara et al., 2024). The arrangement of organizing elements shows the disciplines not as watertight compartments, but as flexible and open subsystems required for the interpretation of the world, whose configuration is determined by the interests, needs and purpose that are proposed, and which are translated into sequential structuring

that tends to privilege certain cognitive processes and certain combinations of specific knowledge (both in its elaboration and in its application). The structure of the subjects is aimed at encouraging participants to relate them to other areas of knowledge and practice, and to adapt the conceptual and procedural network they use to argue different explanations of the world, depending on the purpose they propose. Teaching methodologies favour education for the claim of rights, the development of communication skills, teamwork, social commitment, the desire to learn and the application of knowledge to improve living conditions.

A corpus is analyzed where the motivational, cognitive and metacognitive decisions that teachers implement during the planning, preparation and realization of a session are evidenced at the level of both receptive and productive microskills. A descriptive, quantitative and cross-sectional design allows the application of a structured data collection instrument, whose coding is based on previously defined categories. The results indicate the preferences of the experts both for the teaching-learning process in the area of language and for the proposal of transversality with the subject of mathematics. (Concha-Ramirez et al.2023)

5.2. Integration of Mathematics in the Classroom

Given that participation in mathematics is low, according to the results, greater achievements in Language are evidenced, therefore, the study seeks to incorporate the subject of mathematics in the pedagogical context, to counteract the perceived weakness in this area. The inquiry is carried out from language, with the intention of strengthening other subjects, and incorporates transversality for a comprehensive education.

Successful classroom practices in the area of language constitute a significant contribution to advance in the contents; The objective is to identify the most established practices in the sector. To alleviate vulnerability in mathematics and promote comprehensive learning, the integration of successful language practices with content from the aforementioned block is proposed.

6. Results

The curricular contents are combined from different areas to develop them in the same activity or learning moment. The strategies achieve greater motivation and

interest in children, so they promote participation and concentration in activities. Students deepen their ideas or prior knowledge, using creativity to produce different works.

Students have multiple forms of expression, such as stories, exposure and explanation to their classmates, and various products; while developing imagination and verbalization skills. Teamwork favors the organization of lines of work, environmental, group work methods, capacity for learning research. The language area is linked to mathematics to expand the range of products in various formats that actors can develop.

6.1. Quantitative Analysis

Teaching processes are enriched when they are approached from more than one training area. In this sense, the present work proposes a transversal experience between the area of language and mathematics to confirm their impact on educational practice. To this end, the quantitative phase investigated the experiences of students and parents to establish successful classroom practices.

The objective of the study is to learn about successful classroom practices from the perspective of students and parents, assuming that transversal education must consider all areas of training to respond to the needs of students. The research is framed in a quantitative approach, which allowed manipulating variables and establishing causal relationships, through complementary data collection techniques consistent with the design.

6.2. Qualitative Analysis

In today's education, it is understood that learning can be successful when students build disciplinary knowledge of a certain knowledge or subject. But also when responsible citizens are formed, creating an awareness in the different areas in which they operate.

Therefore, the multidiscipline of knowledge—be it mathematical, social, scientific-natural, among others—facilitates learning, life, and coexistence in society. From the basic level, practices that reflect transversality must be implemented, allowing students to relate their knowledge and skills to address problems of daily life.

7. Discussion

Transversality between languages and mathematics is an appropriate way to improve learning, because it allows the contents to be approached from an interdisciplinary perspective. When the teaching team designs and executes successful classroom practices, it is generating a learning climate that allows students to acquire content in a meaningful and functional way.

The quantitative analysis accounts for the impact and relevance of the Curriculum Design in the development of activities related to reading and writing. Together with the qualitative analysis, they confirm the interdisciplinary approach and the use of different strategies as relevant and effective elements. The results show that the transversality applied in the Language Area with a methodology that simultaneously promotes learning in mathematics, allows to achieve a high success rate.

7.1. Interpretation of Results

Certain classroom practices have been constituted, after the application of a research study, in a transversal experience from language to mathematics that intensifies the educational process. Although the purpose of learning is not the acquisition of an immense amount of knowledge, it has been demonstrated that through these practices not only a greater flow of information is obtained, but other alternative learning is improved. Therefore, it is concluded that the richness of learning lies in the way in which it is facilitated, highlights the professor of this transversal experience.

7.2. Implications for Educational Practice

The conclusions are derived from the initial hypothesis and constitute a contribution for the educational field to rethink its current professional practices. The analysis of the data allows us to establish a plus of importance to the area of language, which intersects with the other areas of the training enterprise, so that the significant classroom experiences that simplify to some extent the work of the educator and make the development of the teaching-learning process feasible. The learning problem is manifested in the difficulty that students have in writing learning processes that require scientific skills, as they are unable to capture, describe and

relate their experiences, giving them global meaning. The qualitative analysis establishes successful classroom practices that contribute to improving the learning processes in a particular establishment.

8. Conclusion

As a result of the research carried out, it was possible to corroborate that the transversality between language and mathematics effectively generates successful practices at different levels and years of schooling. The above is understood as a curricular contribution to the learning of both subjects. It is recommended to continue expanding the practices through individual learning experiences to favor the indicators that are evaluated.

Nowadays, problems in education are beginning to be related to learning deficiencies, such as the lack of reflection on what is read or the difficulty in relating ideas in written form. Education, considered historical and abandoned by certain currents, fails to adapt to the changes demanded by societies, where simultaneous learning in more than one subject allows the student to integrate properly.

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