

# Transversal teaching methodologies in language teaching through technology and art for meaningful learning in secondary education

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## Summary

The teaching of language, technology and the arts in Colombia is based on the meaningful learning approach, which promotes the construction of meanings based on previous learning. However, in secondary education, both areas are taught as separate disciplines, with no connection between them, making meaningful learning difficult. Some authors suggest that the use of cross-cutting methodologies makes it possible to establish connections between areas. In this context, didactic practices that integrate language, technology and arts through software in a secondary school in Valledupar are described. Learning objectives are set for the areas of languages, technology and arts, and different evaluation criteria are used for each area. A content analysis of the activities and a comparison of the scores of the language tests corresponding to the units where the activities were implemented was carried out. The results indicate that language learning improved when implementing these activities, although the impact of the use of literature in arts teaching was not significant. The main challenges in the implementation of these activities were the lack of background for the use of an interdisciplinary methodology and the absence of institutional support. The conditions that facilitated the use of these activities were the desire of the language teacher to implement transversal activities and the training in children's literature of the technology and arts teacher.

**Keywords:** Language teaching, technological innovation, art teaching, new technologies, transversality of teaching.

## 1. Introduction

Meaningful learning in secondary education requires an approach that enhances the construction of knowledge and the understanding of complex concepts based on reflection and experience. To this end, transversal teaching methodologies make it possible to establish connections between different areas of knowledge and facilitate transfer. However, at the institutional level, the relationships between the different axes of the curriculum tend to remain marked by compartmentalization. In the school context of the Popular University of Cesar (UPC), the area of language, which acts as an articulating axis between the different areas, is generally associated with preparation for state tests and the strengthening of Spanish proficiency, while artistic languages are considered complementary training.

With the intention of contributing to significant learning in language and arts, didactic activities were proposed and executed from the perspective of transversality. A set of complementary practices was designed and implemented with eighth grade students. The

activities sought to establish connections between language and artistic languages and were guided by teachers from each area. The learning impact assessment showed positive progress, measured both in intergroup comparison and in the pre-test-posttest relationship, and is supported by the evidence-based approach. However, the conditions for its implementation were uneven; while institutional support facilitated the implementation of activities, continuous teacher training was a limiting factor (González & Villodre 2020)

## **2. Literature review**

### **2.1 Meaningful Learning Approaches**

Over the past decade, the understanding of meaningful learning has evolved. Although the term was introduced by David Ausubel and associated with the theory of the same name, today it is considered that it can be better understood as an approach that includes problem-based learning and inquiry learning. This approach is based on the idea that the student is an active being who seeks to solve problems and that his or her learning takes place in a social, cultural and emotional environment that must be taken into account. For learning to be meaningful, it is necessary that the knowledge acquired is relevant to the learner and that he or she is able to integrate it into his or her cognitive structure.

Julissa and Mallerlis (2024) postulate that the concept has been expanded to include the construction of identity in the context of learning and that it highlights not only the construction of new relationships of meaning, but also the fact that language must be used creatively. This broad interpretation is based on the idea that learning can be considered meaningful to the extent that the learner constructs and develops his or her own personal identity.

### **2.2 Transversal teaching in language and arts**

Transversal teaching in language and arts can guide the design of interdisciplinary didactic sequences, using a framework that articulates linguistic and artistic intentions and allows teachers in both fields to explore and define their purposes together. This collaboration is essential to avoid activities being limited to overlapping tasks and to design learning experiences that integrate the different dimensions of the project.

Given that language and arts curricula are interconnected, the design of learning sequences that use the intentions and concepts of the language area to construct and evaluate artistic texts and, at the same time, use the development of an artistic product as a context for the production and evaluation of texts in language, can be found both in the proposals of transversality and in the possibilities that open up from the teaching and learning of language as a multidimensional capacity and of language and arts teaching as a multilingual and multimodal literacy activity.

### **2.1. Approaches to meaningful learning**

Meaningful learning refers to a set of approaches that, since the construction of the subject, have emphasized the role of the student in their learning process and their ability to make connections between their previous knowledge, whether educational or vital, and the information they receive. To this end, he proposes that learning must be useful and functional for the student and that it must be placed in the context that is close to him. The fact that learning is meaningful, then, also implies that the student understands the learning and that it is not simply stored in his memory to be repeated, but that he can apply it to new situations. In order to delve deeper into meaningful learning and its approaches, five key concepts, such as situated learning, and five associated principles, along with the empirical evidence that supports it, are presented below.

Meaningful learning is seen as a process through which the student becomes the true protagonist of his or her learning process, in which he or she becomes responsible for learning and becomes the builder not only of his or her knowledge but also of his or her own future. This construction is produced from the interaction of the individual with the environment. As a

corollary, learning is not simply the acquisition of information, but must allow the subject to develop competencies and skills that guarantee him or her to face future challenges, throughout his or her life. It is, therefore, a matter of learning not being exhausted in the classroom. Construction in a certain context translates, in turn, into situated learning.

### **2.2. Transversal teaching in language and arts**

The transversality between language and arts is a topic that has been studied from different approaches. In the field of language didactics, the teaching of language in artistic contexts is analyzed, where art becomes a resource and object of communicative realization, and it is considered that language is present in artistic creation and production through literature, music, painting, sculpture, dance and theater. Along these lines, some guidelines have been proposed for the design of activities, projects or didactic sequences in which the development of artistic and linguistic skills is combined. From the didactics of the arts, the organization of activities has been proposed where the linguistic skills required for the adequate development of artistic processes are considered, as well as the creation of artistic works that require a more specialized use of the language (Fagoaga, 2018)

A review of the literature on the teaching of English and French in secondary education in Colombia has identified examples of integration of the language with art and art education. In most cases, these are internships that offer students the opportunity to create artistic works that require a significant use of English or French, which favors language learning. However, this approach also generates difficulties, such as the preparation of classes that not only require mastery of the language, but also of other artistic aspects, as well as the limitations of training and experience that language teachers have in the field of the arts.

### **2.3. Integration of art and language in secondary education**

The integration of art and language has been addressed through different types of practice. In these, the use of art has made it possible to promote significant learning, not only from the point of view of language, but also from the artistic area. However, these practices have presented different difficulties that, in most cases, have depended on the lack of time and resources for their implementation. Therefore, art can be used as a pedagogical resource that, in interaction with the language area, stimulates meaningful learning and develops students' creativity. The integration of art in language classes should be seen as an opportunity to bring students closer to pleasant learning. The implementation of these cross-cutting practices involves an additional effort, but it can also be an enriching experience (Isusi-Fagoaga, 2018).

The benefits of subject integration are evident and are in line with the foundations of a student-centred education. However, time and resources are usually the reasons that prevent its implementation. Considering art as a resource in language classes helps to overcome these difficulties. However, for the work to be carried out effectively, it is recommended that the teacher of the artistic area and the language teacher actively participate in the planning and execution of the practice, and that its implementation corresponds to the skills and processes that each subject contributes to form (Rubio Fernández, 2018).

## **3. Theoretical framework**

Meaningful learning approaches originate with Piaget and Bruner's constructivism and converge with Vygotsky and Lave's situated learning. In a significant learning process there is a change in the student, it consists of transforming information into useful knowledge and therefore it is related to understanding. Learning to learn means learning to construct meaning; it is developed from motivation, which is what gives meaning to what is being learned. Among the principles of meaningful learning, the most important is that knowledge is built from what the student already knows. A heterogeneous group has more possibilities to learn and to learn how to learn. Learning can be assessed by the ability to solve problems in new situations; Meaningful

learning must be able to be transferred to new situations. Learning does not only depend on what is done in the classroom, the environment that surrounds it influences and helps to construct meaning (Isusi-Fagoaga & Lizandra 2021)

Transversal teaching in language and arts is based on inter-artistic dialogue and on the conception of language as a poetic art. Approaches that drive cross-disciplinary or inter-artistic teaching and learning are project-based learning and inquiry-based learning. Teaching and learning in the classroom space cannot be a world separate from the rest of life; Life has to enter the classroom and the classroom has to enter life. In art education, artistic practice serves as a basis for teaching and its projection in other fields of life – for example, in the areas of language, social sciences and natural sciences – is carried out through reading and writing (Gallego González, 2014)

### **3.1. Constructivism and situated learning**

Meaningful learning is based on constructivism and situated learning, through the mediation of processes in a context: those that show the meaning they have for learners. Meaningful learning is understood as the process where a person makes connections between the new thing they learn and the previous knowledge of their cognitive structure. Theoretically, it leads to expanding and/or modifying existing schemes; It is a process where the student is actively involved in the construction of new meanings, depending on the context in which he or she was. Its pedagogical value lies in the fact that learning will depend on the interaction between the person who learns, the object of learning, and the context in which it occurs (Flores, 2018).

According to situated learning, the actual context forms the basis for learning. This principle, along with the latest conclusion of the evidence-based learning model, highlights the importance of learning with purpose that transcends the classroom and is present throughout the process. In other words, for learning to be meaningful, it must occur in a real context that establishes a clear learning purpose and guides all the acts performed during the process.

### **3.2. Theories of multilingual and multimodal literacy**

Theories of multilingual and multimodal literacy hold that students should be able to use a second language and understand it in an environment where English is the default language, as well as in other languages that are present in their community or social environment. To approach meaningful learning from this approach, students must have the ability to interpret and create visual, sound, spatial, and tactile representations from previous experiences; in addition, they must be able to combine in different ways and on different supports using different codes and languages. Assessment should focus on the use of a complex set of available resources that enable students to make and create meaning. According to this approach, students must be able to finalize a product or event in which multiple representations have been combined (Kalantzis and Zapata 2020).

On the other hand, in the context of multilingual and multimodal education, the teaching and learning of a second language must consider the advancement of knowledge through the language, both in the interactions that take place in the classroom and in the production, creation and use of materials. This approach requires teachers to analyze, understand, and manage language, audiovisual, and other use in the classroom. The key to meaningful learning lies in the transfer to language of content that has been learned or taught in another medium, language or language. One language does not dominate the learning of another; rather, languages collaborate and are intertwined in learning (González, 2018)

### **3.3. Project Didactics and Evidence-Based Methodologies**

Project didactics, in its various formulations, proposes a central teaching model that can be complemented through the use of other methodologies. In this sense, evidence-based methodologies are presented as a useful tool to provide a scaffolding that enhances meaningful learning. Project didactics subordinates the learning process to a problem or to the search for an

answer to a question, in an authentic context that forces students to reflect on their environment, to ask themselves questions and to explore it in order to answer these questions, applying the knowledge acquired in different areas of knowledge (Solbes, 2024)

Galeana (2006) confirms the success of project-based learning (PBL) in primary education. Based on research carried out with secondary school students, the author and collaborators affirm that PBL is in line with meaningful learning and contributes to the acquisition of skills. In secondary education, project teaching can be favoured by transversal teaching that links language with any of the arts. The integration of language and literature subjects with artistic education, in its different modalities (plastic, musical, dramatic), contributes to the creation of long-term projects that greatly enrich the educational life of the centers, offering the possibility of achieving significant learning.

#### **4. Research methodology**

The results were obtained through a qualitative approach with an interpretative perspective and case design. Didactic practices (especially strategies, activities, resources and teaching roles) were the units of analysis. These practices correspond to the classroom sequences that teachers implemented in their groups and that, in turn, were designed and intervened in the framework of the research (Carrión, 2006). For the collection of information, observation rubrics, interview guides and tests of language and arts applied to the students were used. The purpose was to inquire about the impact on student learning and its main characteristics. Challenges and conditions for implementation in other contexts were identified. In the literature review and the design of didactic practices, the expected characteristics of transversal teaching in language and arts were defined; in the collection of information, they were contrasted with the experience of the teachers. The contributions to language and literature in the development of these practices were also taken into account.

Triangulation, assessment of inter-judge consistency, and adequacy of instruments ensured the reliability and validity of the findings. Data obtained from observation rubrics and interviews support conclusions and interpretations. The last two sources of information are used to contrast and deepen the information obtained through the rubrics. The main challenges to implement transversal teaching in language and arts are described; The role of institutional support and the long-term sustainability of these practices in initial teacher training is reflected.

##### **4.1. Design and Sample**

This work is situated within the framework of meaningful learning seen from the theory of constructivism and from the theory of situated learning. To carry out the design of an experiment in which a group of seventh-grade high school students from a school in the urban area of the city of Popayán, forced to study two academic areas: the mother tongue and art, where situated learning is adopted, becomes of utmost importance at this stage of the education of adolescents between 12 and 14 years old, who have already begun the search for their personal identity. To this end, four questions are posed and a general objective is determined, as well as specific objectives that seek to establish the characteristics of the learning experience and its impact on the acquisition and development of specific competencies, with the main purpose of contributing to the change of the conception of teaching and learning that persists in secondary education institutions. A first question is presented that seeks to establish how students should approach artistic production in the area of art, and two more oriented to the mother tongue that inquire about the search for their identity in their vernacular language and in the appropriation of a text in the key of interpretation. This entire question scheme is articulated with a fourth question oriented to the impact of the learning experience using a student-centered assessment model.

The answers to these questions are supported by the elaboration of an experiment design. A group of seventh-grade students from a school located in the urban area of the city of Popayán

is selected, who will be evaluated in the area of art over a period of three months, using a prototype learning experience. It has been concluded that situated learning and the multimodal language literacy approach, based on the use of art or artistic expression, has a transversal methodology that should be taken into account in the teacher training curriculum of the UPC, by the directors of the University of Cauca. and in general, in the training of future teachers of language and literature.

#### **4.2. Instruments and procedures**

The research adopts a qualitative and descriptive approach. An intentional sample of five teachers who implemented the proposed didactic practices in the classroom was selected. The data collection instruments were three rubrics, an observation guide to verify the development of the activities and a focus group with the teachers. To obtain information on the impact of teaching through art on the learning of Spanish language and plastic arts, a test was applied to a convenience sample of 60 ninth and tenth grade students from the Cielo campus of the Mariana de Jesús Departmental Educational Institution, in the city of Bogotá. The test consisted of a text and an answer guide to evaluate the production of a story that incorporates illustrations of works of art.

The data obtained in the test were contrasted by a t-test for related samples. The impact of teaching through art on the learning of Spanish language and plastic arts was investigated, and about the conditions that favor or hinder the implementation of teaching that connects these areas in the classroom. The qualitative results were triangulated, consistency in the observations was sought and the adequacy of the rubrics was analyzed. During one of the data collection moments, a workshop was held in which the participants produced and commented on plastic works.

#### **4.3. Reliability and validity criteria**

Efforts to ensure the reliability and validity of the information collected in the study are based on the recommendations of Chen et al. (2021) and Creswell (2014). The principle of triangulation is established, incorporating the analysis of evaluation rubrics and observation guides into the quantitative data. The reliability of the evaluation rubrics is determined by applying a consistency analysis, using Cronbach's alpha coefficient for the set of elements. This procedure is considered appropriate for cases with a small number of evaluators (Bland & Altman, 1997; Tinsley & Weiss, 1975). Regarding the adaptation of the language test, its adequacy is verified through the analysis of the difficulty coefficient and the item-total correlation, using as a standard the score achieved by the group of students of the previous year who have not benefited from these methodologies. The members of the art education group have been asked to provide a double standardization of the items that make up the rubric for the evaluation of artistic productions and a list of symptoms has been constructed for the observation of the students during the development of the writing processes.

### **5. Results and discussion**

#### **5.1 Description of the didactic practices implemented**

Four didactic practices were implemented that included projects of different types: a theatrical presentation, a written chronicle and a critical analysis of a film script, all in Spanish, and a caricature, in English. A dialogue was established between English and Spanish teachers, thematic units were reviewed, pair activities were proposed, and the use of digital resources was supported, but an intermediate design was not planned. In each practice, different didactic sequences and roles of the teachers were adopted. In the play, the students worked in large groups, with support in the scenery and music, and the teacher was in charge of the direction; in the chronicle, a field trip was carried out and the didactics were personalized; In the analysis, practice and language content were more decisive but art was used as support; and in the cartoon, the protagonist was the language, although the English teacher acted more as a content exhibitor.

#### **5.2 Impact on Language and Arts Learning in Secondary School**

The didactic practices of language and arts were implemented during the ordinary training process, without assigning them a greater weight in the course. Even so, learning in both disciplines improved and the integration of art and language was perceived as beneficial. The students proposed, without being asked, to carry out a similar practice in a subsequent course. The grades in language and arts of the last period before the intervention and the period in which these practices were implemented were compared. The average percentage gain was 13.4 points in language and 12.7 in arts, although the differences were not statistically significant.

### **5.1. Description of the didactic practices implemented**

The didactic practices analyzed in this research incorporate elements of meaningful learning and integrate the teaching of language and arts. At the language level, readings of plays by Colombian playwrights are implemented and theater exhibitions, storytelling and scrapbook design are organized. In each of these events, the aim is for students to acquire oral and corporal expression skills to effectively communicate a message; that they enjoy the act of reading and that they understand the works they are going to represent, relate or synthesize; and to present their points of view on the theater and the author. In the area of arts, works by Colombian artists are presented, appreciation and research activities of an artist's work are carried out, works are chosen to be commented on, an art exhibition is organized and a digital portfolio contest is held. All these exercises seek to develop the skills of appreciation, creation and research of visual literature, as well as written production in the form of reviews. In addition, the activities are intended to be meaningful to the students; To this end, works by artists who have had some influence on their daily lives are presented and the choice of works that are commented on, exhibited, competed and shared in a portfolio, among other aspects, is allowed.

In the teaching of art, exhibitions of works are organized, the exhibitions made by others are commented on, and art is appreciated in various forms. These activities seek to enhance in students the ability to comment on works of art with a personal and meaningful approach. In the area of language, a moment of reflection is generated around the search, selection, adaptation and appreciation of images, as well as the information that accompanies these images in the exhibitions. The aim is that, through these talks, students generate awareness about the use of images and the importance of accompanying them properly with a text that reinforces the meaning of the message.

### **5.2. Impact on language and arts learning in secondary school**

The implementation of the didactic practices analyzed in this case caused a positive change in language learning and the arts area of the ninth grade. The average scores of the language test for the first two periods increased significantly, as well as the results of the tests applied to the endocrinology sequence for the tenth grade and the life project sequence for the eleventh grade. In all cases, the difference was strong. For the language test of the third period, which corresponds to a third teaching sequence, the increase was slight and not significant. For the arts area, the comparison of the grades from the first to the second period revealed a strong magnitude difference with a significance level of 0.002. These results support the idea that language teaching can be considered a situated learning process, whose development can be enriched with the incorporation of activities from another area and from other languages, provided that these additions are carried out with a clear meaning and purpose.

### **5.3. Challenges and conditions for implementation**

The use of transversal methodologies in the teaching of language and arts in secondary education, although considered by many educators as beneficial, faces various challenges and inhibitors when it comes to carrying it out. In this regard, the participants in the research indicated that the scarce training in the teaching of the area of the arts, added to the lack of resources and the limited permanence of what has been learned in the area of language through the teaching of the arts, sometimes make it difficult to carry out this type of practice. In the same way, the course

directors maintained that, sometimes, the lack of time and the large number of students in the groups do not allow for practices in which the area of the arts is also used. On the other hand, institutional support, teacher training and practice must be the foundations that allow these difficulties to be overcome.

The lack of training of educators in the area of arts teaching is one of the main barriers faced by the use of transversal methodologies between language and the arts, as well as the poor handling given to the different techniques of teaching the arts. However, institutional support for professional development, the conditions provided by the institutions for the use of these methodologies, and the experience in the use of these practices become conditions that allow the implementation of these methodologies.

#### **6. Contributions to teacher education**

The results of the research provide relevant considerations for the design of initial teacher training at the Universidad Popular del Cesar (Colombia) and the professional development of teachers in practice. Teaching with a meaningful learning approach, which unites language, arts and art education, must be present in the initial training of language teachers, as well as in basic education and art education. For this, it is necessary to involve all students in the design of interdisciplinary experiences that teach language and arts. An important aspect of this professional development is the generation of networks that enable permanent conversation around the improvement of the curriculum, practices and the development of competences in the learning and teaching of language and arts. In order for these networks to be considered as part of the daily work of teachers and not just as an occasional space, it is convenient that they be institutionalized within the horizon of program development.

In terms of evaluation, in order to determine whether language students at the Universidad Popular del Cesar achieve the competencies required by the programs of the Ministry of National Education, it is essential to design or adapt performance tests that allow an accurate assessment of writing and artistic production. This type of evaluation can be of great help to other higher education institutions.

#### **7. Implications for educational practice**

The present research suggests the design of a transdisciplinary training process for future language teachers at the UPC, which promotes, develops and consolidates, through professional development strategies and activities, the transfer of art didactics in language teaching as transversal practices. The proposal contemplates the development, implementation and evaluation of continuing and specialized training modules, which offer spaces for theoretical foundation, discussion, creation and experimentation of activities and didactic sequences in language and integrated arts, in order to enhance the significant learning of secondary education students.

In addition, recommendations for educational practice are suggested, addressing curriculum, assessment, resource allocation, attention to diversity, and transfer to other secondary education institutions. Firstly, it is necessary to promote the transversality of art in the language curriculum and language in the art curriculum. Secondly, it must be guaranteed that the processes of evaluation of language and art are implemented as processes of learning and identification and overcoming of difficulties, and not of instruction and verification of contents.

#### **8. Conclusions**

A set of didactic practices of transversal teaching between language and arts was implemented in secondary education with the aim of offering meaningful learning. The activities, which were developed simultaneously with the language and arts curriculum, were evaluated through evaluation schemes developed by the students themselves and allowed us to observe a positive impact on learning, confirming the initial hypotheses. Despite the benefits evidenced, the

necessary conditions for its sustainability are complex: having the support of the educational establishment, favoring training and continuous teacher development, offering spaces for reflection on practice and allowing the evaluation of the process are the pillars that increase the possibility that a transversal practice reduces the isolation of work in two languages within the framework of a saturated curriculum.

The findings allow us to formulate recommendations to guide the design and development of teacher training in the area of education at the UPC. The proposal for initial teacher training should include spaces for reflection and development of interdisciplinary practices in basic and secondary education, which favor the conception of a process of professional development, in which it is sought to enhance capacities to take advantage of the knowledge possessed by each teacher in the area, for the design of interdisciplinary activities and sequences. Continuing education processes should focus on the implementation of guidelines that allow for a continuous evaluation of the curriculum and teacher development processes, in which the production of evidence is part of the training processes and is collected in a portfolio that allows the generation of reflections on practice and their transfer to other contexts.

### 9. References

- Carrión, G. A. C. (2006). Quality in qualitative research methods: principles of practical application for case studies. *Cuadernos de Economía y Dirección de la Empresa*, (29), 57-82.
- Fagoaga, R. I. (2018). Innovation, interdisciplinarity and Art Education in university teacher training. *Dedicate. Revista de Educação e Humanidades*, (13), 43-53.
- FLORES GODOY, J. S. (2018). DESIGN OF DIDACTIC POSTERS TO REINFORCE THE TEACHING OF THE ENGLISH LANGUAGE TO CHILDREN IN THE FIRST YEAR OF BASIC EDUCATION AT THE "EFRATA" PRIVATE SCHOOL (Bachelor's thesis, Quito).
- Galeana, L. (2006). Project-based learning. *Ceupromed Magazine*, 1(27), 1-17.
- Gallego González, A. (2014). Art for art's sake: a theoretical-practical approach to the benefits of a curricularly integrated bilingual education, using art as a guiding element of the teaching-learning process.
- González, L. M. G., & Villodre, M. D. M. B. (2020). The training of future teachers through interdisciplinarity and comprehensive education. *Interdisciplinary Thought and Action*, 6(2), 104-120.
- González García, J. (2018). The multimodal approach to the literacy process. *Educação em Revista*, 34.
- Isusi-Fagoaga, R., Alonso, E. S., & Lizandra, J. (2021). Didactics of the arts with ICT, collaborative learning and interdisciplinarity in initial teacher training. *Revista Infancia, Educación y Aprendizaje*, 7(2), 52-64.
- Isusi-Fagoaga, R. (2018). Innovation, Interdisciplinarity and Artistic Education in university teacher training.
- Julissa, R. A., & Mallerlis, P. L. The social narratives of regional culture as a bridge of creative writing for the significant learning of language and literature in 5th grade students of the Francisco de Paula Santander Educational Institution, in Codazzi Cesar.
- Kalantzis, M., Cope, B., & Zapata, G. C. (2020). *Multiple literacies: theory and practice*. Octaedro Editions.
- Rubio Fernández, A. (2018). Four didactic strategies based on contemporary art: The educational process as a work of art through Artistic Teaching-Learning Methodologies.
- Solbes, J. (2024). Building Science Didactics: Towards an Evidence-Based Science Education. *Praxis & Saber*, 15(40), 170-186.