



UNIVERSIDAD CATÓLICA
SILVA HENRÍQUEZ

Issue 1

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Journal

Innovation and Professional Development For Lecturers

Faculty of Education



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The Journal «Innovation and Professional Development for Lecturers»« is a biannual digital publication, edited by the Faculty of Education at Universidad Católica Silva Henríquez.

This represents the very first issue of the Journal, whose purpose is to display practises and experiences from various studies and innovative teaching methods carried out by Faculty of Education's scholars, as well as school teachers associated with UCSH.

The different subject matters explored are closely related to education, whether they be studies or teaching practises. Thus, holding in high regard the actions to which our lecturers have endeavoured.

Innovation and Professional Development for Lecturers Journal
Faculty of Education
Universidad Católica Silva Henríquez

Editor-in-chief: Ethel Trengove Thiele

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The information and views set out in this Journal are those of the author(s) and do not necessarily reflect the official opinion of the University.

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Preface

In my role as Dean of the Faculty of Education at Universidad Católica Silva Henríquez (UCSH), it is an honour to be part of the launch of the first issue of the “Innovation and Professional Development for Lecturers” Journal, whose aim is to disseminate and share innovative teaching practices carried out by lecturers appointed to the Faculty, as well as school teachers.

Undoubtedly, the fact that we are able to release the Journal allows for the creation of learning networks, promoting professional development for teachers which greatly impacts on the training of our students.

Subjects such as didactics, assessment, inclusion, ICT, learning networks, research, amongst others, represent a complete new challenge when it comes to putting them into practice, even more so under a Competency-Based Model of Teacher Education.

I would like to extend my sincerest gratitude to Ethel Trengove Thiele, who has worked intensely and professionally towards the first issue of the Journal. I would also wish to express my appreciation to the lecturers who have contributed with their experiences to the assemblage of this academic work.

Marisol Álvarez Cisternas, PhD
Dean Faculty of Education UCSH

Analysis on Spanish Language Teacher Training Programme's linguistic curriculum redesign regarding text typology and discourse.

Marcela A. Amaya García¹

Abstract

The present study, with qualitative approach and exploratory research, had as a general objective to analyse the coherence of the Spanish Language Teacher Training Programme's linguistic curriculum redesign regarding text typology and discourse at UCSH. As far as methodology is concerned, two means of data gathering were employed: an eleven-open-question questionnaire to three lecturers teaching on said programme, and an examination to thirteen course plans related to Linguistics. The results show that, overall, the curriculum partially meets the competences stated on the Graduate Attributes of the programme, i.e. reading comprehension, writing and oral skills. On the other hand, the Text Typology course seems to be unconnected to the curriculum of the programme, which might hinder students' learning process. Based on this, a linguistic curriculum redesign is proposed, taking into account a Competency-Based Model, made up of eighteen courses and organised under four main areas: Communication Skill area, Applied Linguistics area, Linguistic Theory Area, and Didactics Area. The Text Typology course will be mandatory and appointed to the last area, given its relevance to the training of specialised Spanish Language teachers.

Objectives

General Objective:

To analyse the coherence of the Spanish Language Teacher Training Programme's linguistic curriculum redesign regarding text typology and discourse

Specific Objectives:

1. To examine the relationship between the competences stated on the Graduate Attitudes of the Spanish Language Teacher Training Programme and the national standards related to Linguistics, so to measure convergence.
2. To establish how the courses Text Typology and Discourse should be articulated on the redesigned curriculum based on the perception of specialist lecturers appointed to the Spanish Language Teacher Training Programme.
3. To propose a redesigned curriculum for the Linguistic area, which considers Text Typology and Discourse as mandatory courses.

¹ Lecturer, Spanish Language School of Education, Universidad Católica Silva Henríquez. E-mail: mamaya@ucsh.cl

Redesigned curriculum proposal for the Linguistic area, Spanish Language Teacher Training Programme²

1. Theoretical Foundation: communicative approach to develop competences.

The focus of interest of linguists, until 1968, was placed on the linguistic system itself and, therefore, on its grammatical aspects. In this context, Saussure's structuralism theory was considered as relevant, on the one hand, and the theory of generative grammar of

Chomsky, on the other. However, Bernárdez (1981) points out that the irruption of text linguistics is one of the three revolutions of twentieth-century linguistics, for it addresses issues that were not the subject of study regarding language sciences -text. At the same time, he points out that only from 1972, this branch of linguistics is portrayed as significant.

Providing more details of the idea of the revolution by text linguistics in language studies, Bernárdez (1981, p.184) states:

The adoption of the text as a fundamental object of study leads, in addition, to the abandonment of one of the fundamental principles of linguistics until today: the primacy of the system, the conception of linguistics as a study of the language system, with the other aspects remaining in the background of language. (...) In other words, it is not a question of expanding linguistics with a new level, but to break the limits that linguistics had set on itself; the fundamental object of study in traditional linguistics now becomes a part of a new object of a broader study that approaches language seen from its global perspective.

Indeed, the author says that under this prism language becomes an interdisciplinary object, since «in order to understand the formation, structure and comprehension of the text, it is necessary to study the phenomena of the language system together with other semantic-pragmatic phenomena, including psycholinguistic and sociolinguistic aspects»(Bernárdez, 1981, p.185).

Undoubtedly, these new perspectives on the epistemic area have influenced the way in which the learning of Spanish Language has been perceived at schools, surpassing pedagogical orientations based on a traditional paradigm.

The influences of this pedagogical culture [normativist and based on an ideation of the system in abstract form] on the formative approaches to the Teaching of Spanish Language and Literature were extended to the first half of the 90s.

² The redesigned proposal regarding the Linguistic Area on the Spanish Language Teacher Training Programme is the only one that will be presented, for it is the core of this study.

Although, in general terms, since the 1970s, functionalist ideas in grammatical analysis emerged, and impressionists literary studies were displaced by structuralism. Teaching continued for several years with a normative outlook on learning and with dominant repetition, with strong influence of Hispanic culture. (Spanish Language Teacher Training Programme UCSH, 2015b, p. 12)

The first glimpses of these transformations are observed in the Act of Education of the '90s, when the subject of Spanish Language was renamed to «Spanish Language and communication». Emphasising «(...) the social genesis of knowledge, where social interaction is particularly relevant and, more specifically, the linguistic exchange associated with real contexts of communication» (Spanish Language Teacher Training Programme UCSH, 2015b, p.13).

The acquisition of the basic competences posed by MINEDUC in 2009 is focused on the progressive development of skills in the students (MINEDUC, 2009). Clearly, knowledge, skills and attitudes stated in the Fundamental Objectives and Mandatory Minimum Contents lean towards the development of competences, definition provided by the Organization for Economic Co-operation and Development (OECD).

In 2012, the National Council of Education (CNED) approves the Curricular Bases elaborated according to the requirements of the General Law of Education (LGE). From a didactic point of view, this curriculum document explains its communicative approach to the development of skills³ that must be achieved in each subject and outlines the fundamental role of the discipline in Spanish Language learning.

At this stage, students are required to consolidate the skills that enable them to access knowledge autonomously and to advance in the understanding of the world as an interactive and complex system. This requires, In the first place, to acquire the capacity to analyse, interpret and synthesise, in a critical and autonomous way, texts of various types, representing the cultural heritage of humankind, which help the understanding of different views and allows for the necessary reflection to develop positions and personal values.

It also requires learning how to express clarity and effectiveness in written and oral form to communicate with others, reach agreements, persuade and develop their own thinking. These competences should also extend to the mastery of languages other than the mother tongue, for interaction and communication with other cultures, in an increasingly globalised society. (MINEDUC, 2013, p.16)

In this context, the need to observe that «(...) the area of Spanish Language and Literature formation has experienced, in the last decades, several adjustments that have resulted in the current prevalence of the communicative approach in the teaching of

³ Based on Bloom's Taxonomy.

Spanish language. This, on the one hand, involves developing real communication skills in the learner and, on the other hand, the implementation of didactic socio-discourse practices» (Spanish Language Teacher Training Programme UCSH, 2015b, p.18). Thus, the redesign of the curriculum of the area of Linguistics, which is proposed as part of this research, considers the communicative approach as theoretical substrate for the development of competences in students and also as a means to account for the own advances of the discipline.

2. Proposal

Firstly, it should be noted that the analysis of collected data in this research, as well as other documents, was used as input for the development of the proposed redesign of the Linguistics area of the Programme. The documents utilised were: Needs and Demands Report (UCSH, 2015a), Education Act (UCSH, 2014a), Self-Assessment Report of the Programme (Spanish Language Programme, 2015b) And the comparative analysis of the curriculum of Spanish Language Programmes (UCSH, 2015c)⁴. Thus, the proposal is supported, on the one hand, in the analysis of the curricula of the area of Linguistics and the perceptions of lecturers and, on the other, in information of institutional nature.

Secondly, it is important to mention that for curriculum design, the stages of the different Competency-Based North American and Indian models are partially adopted. This is because, as Schmal & Ruiz-Tagle (2008) point out, this is a problem that has not yet been finished. Therefore, in the redesigned curriculum proposal, an ad hoc methodology is presented in the context of the curriculum redesign process that the Programme is undergoing. The following information represents the stages undertaken⁵:

1. Validation of Graduate Attributes; Internal and external consultants.
2. Elaboration of Needs Analysis Report.
3. Analysis of the relationship between standards of the discipline and curricula.
4. Interviews to specialised lecturers.
5. Comparative analysis of similar curricula.
6. Definition of theoretical approaches and curriculum.
7. Analysis of the relationship between courses and competencies stated on Graduate Attributes document.

Thirdly, since UCSH is in the process of curriculum redesign⁶, the present proposal constitutes a first approximation in view of the construction of the curriculum by the School of Spanish Language in the area of Linguistics. Therefore, the credits associated with each course are not specified. The formative sequence of the courses, which attend to

⁴ Created by lecturers dedicated to curriculum redesign in Spanish Language Education, Ph.D Marcela Oyanedel and Marcela Amaya.

⁵ Stages 1, 2, and 5 will take place when curriculum redesign is in action.

⁶ Commencement date: 7th July, 2015.

the development of the competencies declared in the Graduate Attributes, in association with the standards for Spanish Language Teachers are stated.

Fourthly, it should be pointed out that the areas of the Plan of Study correspond to the theoretical conceptualizations reviewed in the basis of the proposal. In this way, the courses related to Communication Skills seek to enable in future teachers better comprehension and production of written, oral and multimodal texts of different complexities, considering the adequacy of the different contexts (their own or their students'). The Applied Linguistic area aims to provide future teachers with disciplinary knowledge related to the functions of language regarding socio-pragmatic discursive situations. The Linguistic Theory area, in turn, considers giving teachers theoretical references that allow them to understand the evolution of linguistics as a science, by developing processes to teach writing, speaking and understanding in concrete situations. Last but not least, the Didactics area responds to the need to promote in students the pedagogical re-education of language teaching from a communicative approach, with the aim of encouraging the processes of reading comprehension and oral expression as our current society requires.

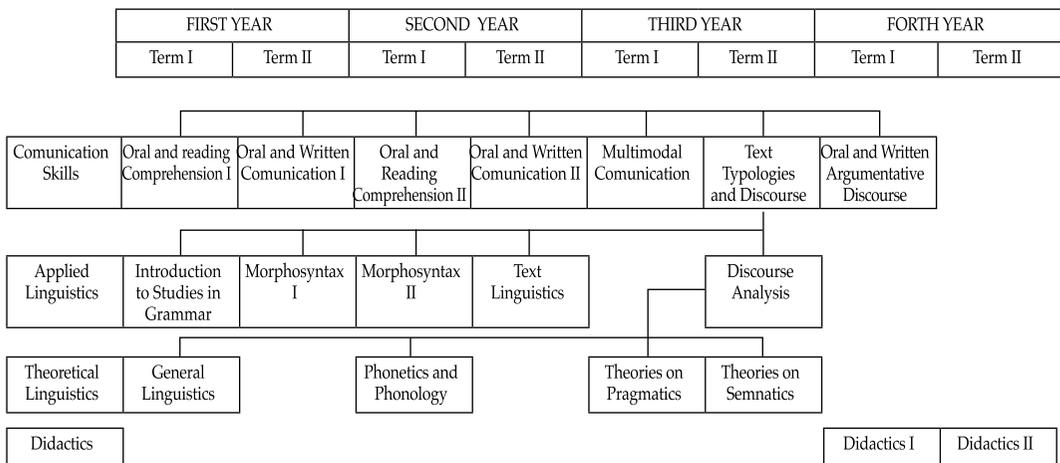
Finally, the number of courses (18), the distribution (seven courses in the area of communication skills, 11 in the area of applied linguistics, linguistic theories and didactics), the sequencing (from lowest to highest complexity), and they amount of time/terms (8) are in line with the results of the comparative analysis of curricula from three similar programmes, which are accredited for five and seven years⁷. The classification of the courses has been carried out considering their focuses, except the case Text Typologies and Discourse, which compromises several areas of the Study Plan, since from the theoretical point of view, the texts constitute, on the one hand, the support of speech and the horizon of expectations of reading comprehension and, on the other, they are the object of study of discourse analysis, semantics, pragmatics, among others. Therefore, this course is articulated in the curriculum by means of ascending and descending lines.

Area	Skill	Course	Graduate Attributes
Communication Skills	Reading	Oral and Reading Comprehension I	Didactics related to Reading Comprehension
		Oral and Reading Comprehension II	
		Text Typologies and Discourse	

⁷ The Faculty of Education is in the process of defining the amount of time its programmes will last.

Communication Skills	Writing	Oral and Written Communication I Oral and Written Communication II	Didactics related to Writing.
Communication Skills	Speaking	Multimodal Communication Oral and Written Argumentative Discourse	Didactics related to Reading Comprehension Didactics related to Writing.
Applied Linguistics Theoretical Linguistics Didactics	Fundamental Knowledge	Introduction to Studies in Grammar Morphosyntax I Morphosyntax II Text Linguistics Discourse Analysis General Linguistics Phonetics and Phonology Theories on Pragmatics Theories on Semantics Didactics I Didactics II	Linguistic Consciousness

Image 1. Proposed redesign of the Curriculum of the Linguistic Area, Spanish Language Teacher Training Programme UCSH.



Conclusions

The general objective of this study has been achieved through the development of specific objectives. In relation to these, the following can be stated:

According to the data collected through the analysis of the curriculum of the Linguistics area of the Spanish Language Teacher Training Programme, the competences related to reading comprehension, textual production and oral communication are not adequately met. Undoubtedly, this is a complex problem, since these competences report, on the one hand, the areas of the Chilean school curriculum and, on the other, the disciplinary standards to teach Spanish Language.

At the same time, it is established that the curriculum give an exhaustive account of the disciplinary competence called «linguistic awareness». This observation is consistent with the results of Gómez & Sotomayor (s / f, p.10), who stated that «organizing the curriculum for the training of teachers in this way, supposes the idea that we must first learn the contents (disciplinary or pedagogical) and then you have to consider the problem of how to teach them».

In line with this criticism, the Self-Assessment Report of the Programme (UCSH, 2015a) recognises the need to respond, on the one hand, to the new didactic approaches of language teaching and, on the other, to make the corresponding curricular adjustments to respond to public policies of initial teacher training. In particular, the challenge is to develop a curriculum of secondary education for teachers of Spanish Language that is based on standards, since these, as Gómez and Sotomayor (s / f, p.10) say, «Are strongly focused (...) on the integration between the disciplinary contents and the didactic contents».

In this regard, it is considered that for the development of competencies the organization of the curriculum must be open and respond to the demands of today's society. Yániz (2006) says that planning for competencies should have to, as its main purpose, train students as future professionals, facilitating the conditions for them to develop not only their knowledge about the discipline, but also the management of the relevant strategies and techniques of action, as well as the necessary attitudes so that they can respond satisfactorily to the demands that the practice of this profession will have on them in different working contexts (Ibarra, Rodríguez-Gómez & Gómez- Ruiz, 2010). In this regard, Pozo & Salmerón (s / f, p. 349) argue:

[we must] plan interventions based on the identification, analysis and prioritization of the needs of the recipients and the context, is a practice whose use has grown in importance, becoming a habitual trait that is present today in most initiatives promoted by institutions around us.

What the authors have pointed out is validated by Méndez (2006), who states that the identification of training needs is a line of research that is blossoming because it allows

to base training proposals for a desired performance. This is relevant because planning at university must emerge from a process that is relevant and responsive to the needs of the recipients, in this case, future Spanish Language teachers. This requires a collaborative work of teachers, because assessing needs is a dynamic, democratic and participatory process. Based on this premise, the results of the analysis of the perceptions of key informants, internal (students and teachers) and external (graduates) were considered as input, and a questionnaire was applied to the three lecturers in the area of Linguistics, who highlighted the following points:

- They agree that the area's curriculum does not follow a clear theoretical perspective. In view of this, they propose that the communicative approach be obligatory as a substrate, as this would account for the curricular guidelines, as well as for the initial training standards.
- They point out that the theoretical and didactic approaches are not respected and that emphasis is placed on theory over practise.
- They establish that the courses of the area are disarticulated, so linking them is only a nominal approach.
- They raise the need to incorporate the course Text Typologies and Discourse as compulsory in the context of the redesign of the curricular structure, since primordial contents for the formation of a Spanish Language teacher are addressed.

In relation to the beliefs of linguistics lecturers, these reinforce the results of the analysis of the curricula, as well as are in harmony with the demands of the students (information included in the Self-Assessment Report of the Programme, UCSH, 2015b). In this sense, it is interesting to note the intention of teachers to adopt a specific didactic approach that favours students' learning. According to Torrado (2002), adult education requires a special educator with conceptual, technical and affective skills that will enable him to carry out their daily tasks. Among the characteristics that should said educator have, we can find the following:

1. Facilitator (stimulate and promote student development for adults).
2. Be resourceful (provide the means to facilitate the process of learning).
3. Expert (guide through their expertise the learning process).
4. Planner (Plan their courses, allowing flexibility depending on the type of students).
5. Instructor (providing feedback and counseling to students).
6. Co-learning (open to mutual and direct learning).
7. Mentor (support students to enable them to identify their own possibilities and purposes).

It should be noted that curricular innovation will necessarily involve reformulation of classroom practices. In order to do so, it is necessary to incorporate the so-called «active methodologies» that promote lifelong learning, since adults are the ones who are being trained (Alcalá, 2001; Amador, 2001; Bermejo, 2006; Paños, 1999; Torrado, 2002).

As for the curriculum design itself, the literature review highlights the lack of consensus on competency-based curriculum models. Therefore, in order to propose a redesign of the curriculum of the Linguistics area of the Programme, in which the course of Text Typologies and Discourse is considered to be mandatory, a methodology pertinent to the UCSH educational context is followed. Given the scope of the present investigation, deepening in the stages involved does not take place, point to be addressed in a future study.

However, in order to solve the above described difficulty, the development of the proposed curriculum is based on the information collected through the instruments of data collection, as well as other documents. Specifically, the comparative analysis of curricula of similar accredited Programmes is relevant as input. These data help to establish the number of semesters, the distribution of the courses and their sequencing. It should be noted that UCSH ascribed to the competency-based model in April, 2014, and is undergoing the process of curriculum redesign.

Taking these elements as a basis, a theoretical framework supported by the communicative approach is proposed and composed of 18 articulated courses in four formative areas, which refer to the competences declared in the Graduate Attributes and the disciplinary standards of secondary education in Spanish Language. In this way, it is considered that the proposed courses and the interrelation between them would contribute to providing a processual organization to the training of students, thus avoiding the lack of convergence between the courses. This synchronization of the Curriculum of the area of Linguistics, in which Text Typologies is constituted as an obligatory course, would help to improve the academic performance of future teachers, since it will provide them with the main components of the complexity of the phenomena related to text diversity.

Loureda (2003, p.32) indicates that text typology, that is, the study of types of texts, is intimately related to reading comprehension, since «[these] work, as a pragmatic fact in the sphere of the speaker and of the listener: the former imposes restrictions on codification; the latter serves as a guide for interpretation.»

Basically, according to the same author, genre implies a pact between the interlocutors: on the one hand, the type of text guides the listener in their process of interpretation of the words and, on the other, it offers the recipient a horizon of expectations (Loureda, 2003). That is to say, there is a dialogical relationship between production and text comprehension, since the first one provides effective textual bases, understood as discursive markers, facilitating the process of reading comprehension.

On the other hand, while it is possible to accomplish the general objective and the specific objectives during this study, and observe the research assumption in contrast to the results of the data collected, it is not possible to ignore the limitations of this work. In this sense, literature review and perspectives regarding curricular innovation by competences in tertiary education are presented as theoretical complexities; The lack of

consensus regarding curriculum models associated to the development of competencies and the dynamism of the phenomenon under study, given that Chilean universities are undergoing major changes in the curricular, structural and operational fields. Of course, these institutions are, for example, as Gairín and Rodríguez-Gómez (2011) say, called to work considering the collaborative community, because «collaborative culture as a challenge has the ultimate horizon of understanding the reality of students and the discovery of the strategies that best allow them to respond to their learning needs and the demands that the educational system and the environment set on them» (Gairín & Rodríguez-Gómez, 2011, p.)

Following the same idea regarding the limitations of the study, it is pertinent to point out the problems of a logistic-operative nature. These essentially refer to the difficulties observed during field work (data collection from the specialised lecturers).

Finally, it should be noted that this research, of a qualitative and exploratory nature, brings from its own specificity a first approach to the knowledge of the triad «applied linguistics, curriculum design and competency-based models». In this way, new questions can be made, which are possible to be answered in future studies, for example: what components should a curriculum design model have to be applied in language programmes? What active methodologies would be appropriate for language teaching? What elements should be considered in language classrooms?

Finally, in this same perspective, the socialisation of the results of this study through a scientific publication is considered vital, since the understanding of the phenomena is enhanced from interdisciplinary point of view, in this case through the approach of linguistics to education.

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Self-regulation of UCSH's Primary Teacher Education's students: a comparison between students taking morning lessons and afternoon lessons

Evelyn Campos Arenas¹

Abstract

The present research sought to identify the level of motivation and use of learning strategies -cognitive, metacognitive and context- of the 60 students of Primary Teacher Training Programme with a minor in Mathematics at Universidad Católica Silva Henríquez in the first half of 2015.

In addition, it contrasted the effect of the variables «study modality» and «age group» of the participants on the Scales of Motivation and Learning Strategies. For this purpose, the Motivated Strategies for Learning Questionnaire (MSLQ) was applied in its Spanish version, adapted by Ramírez, Canto and Rodríguez, Bueno and Echazarreta (2013).

The study was framed under the perspective of a quantitative paradigm, since it analysed the self-regulation of the student from the perspective of data collection and analysis, using the statistical software S.A.S. (Statistical Analysis System).

The results indicated, firstly, that morning and evening lesson students possess a positive motivation and obtain lower average scores in the learning strategies area. The analysis of the factors indicates a contradiction between the motivational perceptions of judgments or beliefs and the strategies that they declare to use. This challenges teachers to create opportunities that allow students to discover, develop and apply thought processes and strategies to learn independently and in groups, that is to say, learn to learn throughout life, creating a self-regulated being.

Introduction

The teacher of the 21st century is in transition, and this transition is not always easy or fast. It requires a great effort to break old schemes. It is essential to put aside the empirical ideas about teaching and learning that dominate our culture, and to assume new attitudes that allow us to adapt to the challenges and demands that arise.

It is a great challenge the one we have as a country and as academics: not losing sight of the integration of individuals in educational and training processes. The person is the main reference around which all processes, whether productive-economic, participatory-cultural or social in general, must revolve.

Higher education must transform people's ways of thinking, feeling and acting, so that they can actively participate in their personal and social development.

With university teaching, we intend to train young people and adults for competent social action in certain professional and academic fields. To have competent social action,

⁸ Lecturer, Primary Teacher School of Education, Universidad Católica Silva Henríquez. E-mail: ecamposa@ucsh.cl

a person must perform tasks and display a set of personal attributes such as knowledge, skills, interests, attitudes, values and dispositions.

According to what has been mentioned arose the interest to investigate the particularities of students regarding their characteristics of learning to learn, to think in a critical, strategic, autonomous and metacognitive way. In particular, the study focused on the students of the Mathematics course, in morning and evening lessons at Universidad Católica Silva Henríquez, with the intention of creating active and critical participants of their own learning process, and who are, in turn, aware of the importance and usefulness of the process of self-regulation to enhance academic success.

Justification and Importance

A challenge of great importance for teachers is to create a shift from emphasis teaching to facilitate and deepen disciplinary learning to processes that are alternative to just content repetition. These processes comprise a variety of new resources to exacerbate forms that represent disciplinary knowledge and to specify types of student interactions with knowledge. Education has, as a fundamental challenge, to train people with positive attitudes, with the ability to find updated information, select, systematise and use new knowledge.

In order to have self-regulation in learning, students must formulate or choose their goals, plan their actions, select the necessary strategies, execute the project (s) and evaluate this action (Cueli, García & González-Castro, 2013). Self-regulated students direct their learning by implementing a range of strategies, activating and modifying their cognitive, metacognitive and behavioural processes, before, during and after learning takes place (Zimmerman, 2008, quoted by Cueli et al., 2013).

Castillo, García and Tacchi (2014), in their study of perceptions about learning strategies used by future primary school teachers taking afternoon lessons at UCSH, concluded that the students do not work autonomously to learn the content; the students' sole purpose is to obtain good grades to pass their courses.

Clearly, not only is the student involved, since the absence of regulation of their learning is also attributed to the teacher who does not explain the different moments of the teaching-learning process, and does not deliver important information so that students can make decisions on how they should learn (De la Fuente & Justicia, 2003).

A contribution to educational psychology was made by Dr. Pintrich, cited by Ramírez, Canto y Rodríguez, Bueno and Echazarreta (2013). He emphasizes the dynamics of motivation and cognition in performance and learning throughout students' lives. Considering this proposal and feeling the desire to measure these characteristics in university students, the questionnaire Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, García & McKeachie, 1991, 1993, quoted by Ramírez et al. in its Spanish version), validated with university students at the University of Yucatan, Mexico

was applied. Its results support its use and make it a valid and reliable instrument to measure motivation and use of learning strategies.

The aforementioned data allows to formulate the objective of the research: to diagnose the level of motivation and use of learning strategies -cognitive, metacognitive and context of Primary Teacher Training Programme Students, minoring in Mathematics at Universidad Católica Silva Henríquez in the first half of 2015.

Methodology

The approach in which the research is framed is that of a quantitative type; the collection and analysis of information requires the use of statisticians for the interpretation of the results as a point of comparison and diagnosis of the level of motivation and/or use of learning strategies -cognitive, metacognitive and context, individually, as well as of student groups (Hernández, Fernández & Baptista, 2010). The scope of this research is an exploratory one, since, although there are studies on self-regulation, there is no single criterion for its study (Hernández et al., 2010), and a study has not been carried out at Universidad Católica Silva Henríquez to implement procedures to support students.

Sample

The sample consisted of 60 students belonging to Primary School Teacher Training Programme, minoring in Mathematics, separated into those who were taking morning classes and evening classes during the first semester of the year 2015 at UCSH. 53 (88%) of these students correspond to females and 7 (12%) to males. The daytime group is composed of 36 students and the evening group is composed of 24 students. The average age of the 60 students is 27 years old. The students of daytime modality are on average 24 years old (the ages are distributed between 20 years minimum and 43 years maximum); In the afternoon mode students are, on average, 32 years old (distributed between 21 and 58 years).

Motivation and Strategies for Learning Questionnaire (MSLQ)

For data collection, a single instrument associated to the quantitative method was applied. This is a self-report instrument that measures the use of learning strategies and the level of student motivation, incorporating elements of self-regulation of learning that emphasize the interrelationship between motivation and cognition.

The MSLQ is composed of two scales: Motivation Scale, which consists of 31 items that measure goals and beliefs of value, beliefs about the skills to succeed and anxiety about exams, and Learning Strategies Scale, composed of 50 items related to students' use of different cognitive, metacognitive and context strategies.

Table 1: Motivation Scale: Definitions.

Sub-stage	Definition
Orientation to intrinsic goals	Degree on which a student classifies themselves as regarding an academic task on the grounds of how challenging or curious it might be.
Orientation to extrinsic goals	Degree on which a student classifies themselves as regarding an academic task based on marks, external recognition, or someone else's opinion.
Value of tasks	Refers to the judgement a student makes regarding the importance, interest and usefulness of the content of the course.
Beliefs of control	Reflects the point up to which the student believes their academic results will depend on their own effort and learning strategies.
Self-efficiency for learning	Beliefs and judgement of the student regarding their ability to successfully undertake an academic task.
Exam anxiety	Refers to the preoccupation of the student while taking an exam.

Table 2: Learning Strategies Scale: Definitions.

Sub-stages	Definition
Repetition	Reflects the use of repetition strategies to remember information regarding an academic task.
Elaboration	Refers to the use of elaboration strategies such as paraphrasing and summarising.
Organisation	Strategies used by the student, such as underlining or creating maps in order to select relevant information.
Critical Thinking	Use of strategies to apply previous knowledge to new situations or to criticise new ideas.
Metacognitive Self-regulation	Use of strategies that help the student control and regulate cognition. These include planning, supervision of their own understanding, and regulation.
Environment and time management	Reflects the strategies the student uses to manage their time.
Effort regulation	Reflects the effort it takes to perform different tasks of different courses in a timely manner.
Peer-learning	Reflects the activities done by the student in order to learn with other classmates.
Seeking of help	Refers to the help the student seeks to other classmates while undertaking an academic task.

Type of response: Seven-point Likert-like scale, where 1 means «I do not display said behaviour» and 7 means «I always display said behaviour».

Reliability

The general aspects of the Motivation and Strategies for Learning Questionnaire (MSLQ) were analysed using the Cronbach Alpha statistical test, which provides internal consistency to the test.

Table 3: CRONBACH'S ALPHA COEFFICIENT OBTAINED FROM THE APPLICATION OF MSLQ TO THE STUDENTS (n = 60)

Cronbach's Alpha Coefficient
0.94

It can be observed that the Questionnaire obtains a «very high» Alpha Coefficient, at a general level, which indicates, according to Ruiz (2010), that there is a high internal consistency among the items.

Analysis

Once the MSLQ information was collected, a descriptive statistical analysis was carried out by measuring both scale and subscale of Motivation and Learning Strategies, the calculation of the statisticians of measure of central tendency and variability, and the procedures GLM and Duncan to relate the motivation and strategies of learning with the variables «modality» and «age group» of the students. All statistical analyses were performed using the Statistical Analysis System (S.A.S.) programme.

Results

To diagnose the level of motivation and the use of learning strategies, the arithmetic mean and standard deviation of the scales and subscales that compose the Questionnaire were calculated.

Table 4: Descriptive statistics of the MSLQ (n = 60).

Scales	Mean	Standard Deviation	Median
Motivation	5.52	0.62	5.53
Strategies	4.42	0.77	4.54

As can be observed, the students have a more favourable perception for the Motivation scale, obtaining a value close to 6. While the average of the Learning Strategies scale is close to 4, there is no favourable or unfavourable tendency for this.

Motivation and Learning Strategies Results

Table 5: Descriptive statistics of each factor of the MSLQ's Motivation Sub-stages (n = 60).

Factors	Mean	Standard Deviation	Median
Orientation to intrinsic goals	6.06	0.93	6.25
Orientation to extrinsic goals	4.79	1.16	5.00
Value of tasks	6.33	0.82	6.67
Beliefs of control	5.80	0.83	6.00
Self-efficiency for learning	5.82	0.90	6.00
Exam anxiety	4.33	1.48	4.40

In general, all factors have high averages, with the exception of the factor «Exam Anxiety». The motivation factor with the highest average is the «Value of tasks», which corresponds to the student's judgments about the importance, interest and usefulness of the content of the subject; Followed by the «Orientation to Intrinsic Goals», which relates to the degree to which the student engages in an academic task for reasons such as challenge, curiosity and mastery.

Table 6: Descriptive statistics of each factor in the Strategy scale of MSLQ (n = 60).

Factors	Mean	Standard Deviation	Median
Repetition	4.93	1.26	5.25
Elaboration	5.18	0.99	5.17
Organisation	5.38	1.27	5.50
Critical Thinking	5.08	0.86	5.20
Metacognitive Self-regulation	4.32	0.82	4.38
Environment and time management	3.29	0.86	3.50
Effort regulation	2.47	0.52	2.75
Peer-learning	4.72	1.51	5.00
Seeking of help	4.18	1.08	4.50

The averages of these factors indicate that they are less used by students. First, the higher the average is the «Organisation» factor, which helps students select relevant information and build connections between the elements of the information. The factor with the lowest average (close to 3) is «Effort Regulation», indicating the little diligence and effort that students put into reaching the established goals.

Scale of Motivation by modality

Table 7: Descriptive statistic of the Motivation Scale according to Modality: Morning and Evening.

Scale	Modality	N	Mean	Standard Deviation	Median
Motivation	Morning	36	5.49	0.61	5.55
	Evening	24	5.57	0.66	5.54

In general terms, the Motivation scale does not show a great variation in the results of the responses given by the students of the morning and evening modalities, minor in mathematics.

Table 8: Descriptive statistics of the Motivation scale, ordered by components, factors and modality of students participating in the study.

Factors	Modality	N	Mean	Standard Deviation	Median
Orientation to intrinsic goals	Morning	36	6.14	0.88	6.25
	Evening	24	5.94	1.00	6.25
Orientation to extrinsic goals	Morning	36	4.69	1.04	4.75
	Evening	24	4.94	1.33	5.25
Value of tasks	Morning	36	6.30	0.66	6.50
	Evening	24	6.37	1.03	6.83
Beliefs of control	Morning	36	5.70	0.88	5.75
	Evening	24	5.94	0.73	6.13
Self-efficiency for learning	Morning	36	5.84	0.96	6.13
	Evening	24	5.80	0.62	5.81
Exam anxiety	Morning	36	4.26	1.53	4.30
	Evening	24	4.43	1.44	4.50

As in the general analysis of the Motivation scale, the evening and day mode present high average values in most of the factors. In addition, the «Emotional» component, which presented the lowest average in both modalities, i.e. students in both groups present a regular concern when taking exams.

Scale of Learning Strategies according to modality

Table 9: Descriptive statistics of the Learning Strategies scale in general terms by modality.

Scale	Modality	N	Mean	Standard Deviation	Median
Learning Strategies	Morning	36	4.57	0.67	4.56
	Evening	24	4.20	0.86	4.28

It can be observed that, in general terms, both groups present intermediate averages, being the morning modality the one obtaining a superior average (5 points approximately) to the evening mode. According to Rinaudo, Chiecher and Donolo (2003), learning strategies include thoughts or behaviours that help acquire information and integrate it into existing knowledge, as well as retrieve available information.

Table 10: Descriptive statistics of the Learning Strategies scale, ordered by factors and modality of the students participating in the study.

Factors	Modality	N	Mean	Standard Deviation	Median
Repetition	Morning	36	5.08	1.14	5.13
	Evening	24	4.70	1.42	5.25
Elaboration	Morning	36	5.29	0.87	5.50
	Evening	24	5.00	1.14	5.00
Organisation	Morning	36	5.55	1.24	5.75
	Evening	24	5.13	1.31	5.38
Critical Thinking	Morning	36	5.26	0.72	5.40
	Evening	24	4.82	0.99	5.10
Metacognitive Self-regulation	Morning	36	4.48	0.64	4.42
	Evening	24	4.08	1.00	3.96
Environment and time management	Morning	36	3.48	0.77	3.63
	Evening	24	2.99	0.92	2.88
Effort regulation	Morning	36	2.71	0.53	2.75
	Evening	24	2.79	0.50	2.88
Peer-learning	Morning	36	4.97	1.39	5.33
	Evening	24	4.35	1.62	4.50
Seeking of help	Morning	36	4.34	1.00	4.50
	Evening	24	3.95	1.17	4.25

In this scale of Learning Strategies, there are two factors that have the lowest scores: «Effort Regulation» and «Time and Environment Management», in which the morning mode presents a higher mean than the evening. The «Organization» factor obtains an average of more than 5 in both modalities. The propositions that make up this factor are related to the techniques or strategies which the student uses to study and select important information. Another factor with high average is «Elaboration»; This factor points to the use of strategies such as paraphrasing or summarizing when performing an academic task.

Scale of Motivation according to age group (young and adult)

In order to perform this analysis, we used the differentiation made by Malcolm Knowles, cited by Sanz Fernández and Lancho Prudenciano, (s.f.), who recognizes three adult evolution groups and separates them by age. In this study, only the first two are used, since there are no students in the third group. The group labelled as «Young» corresponds to students under 30 years of age, and the second - «Adult» - to those over 30 years of age.

Table 11: Descriptive statistics of the Motivation scale according to age group (Young and Adult)

Scale	Age group	N	Mean	Standard Deviation	Median	Min.	Max.
Motivation	Young	41	5.38	0.62	5.42	3.72	6.40
	Adult	19	5.81	0.55	5.79	4.92	7.00

Both groups have high average scores; However, the group of adult students has a better average on the scale. According to Torrano and González (2004), one of the characteristics of students who self-regulate their learning is the control of their motivation and their emotions.

Table 12: Descriptive statistics by component and factors of the Motivation scale according to age group (Young and Adult)

Factors	Age Group	N	Mean	Standard Deviation	Median
Orientation to intrinsic goals	Young	41	5.90	0.99	6.00
	Adult	19	6.41	0.67	6.50
Orientation to extrinsic goals	Young	41	4.66	1.12	5.00
	Adult	19	5.05	1.24	5.25
Value of tasks	Young	41	6.15	0.91	6.33
	Adult	19	6.71	0.38	6.83
Beliefs of control	Young	41	5.68	0.88	5.75
	Adult	19	6.05	0.64	6.00
Self-efficiency for learning	Young	41	5.75	0.96	5.75
	Adult	19	5.99	0.77	6.13
Exam anxiety	Young	41	4.18	1.49	4.40
	Adult	19	4.65	1.45	4.80

The «Adult» group has higher average scores than those of the «Young» group in all Motivation factors. According to Knowles (1967), this can be attributed to the freedom to learn; For adults, learning is significant because of intrinsic motivations to the learning process itself. Adults learn because they want, not out of obligation, and are much more sensitive to intrinsic motivations than to extrinsic motivations, as is the case of students in the «Young» group (Sanz Fernández & Lancho Prudenciano, s.f.).

Scale of Learning Strategies according to age group

Table 13: Descriptive statistics of the scale Learning Strategies by age group (Young and Adult)

Scale	Age group	N	Mean	Standard Deviation	Median
Strategy	Young	41	4.38	0.74	4.43
	Adult	19	4.53	0.83	4.65

A similar average score is observed in both groups, remaining at an intermediate level in the use of the learning strategies. Increasing their use, remains a challenge for teachers.

Table 14: Descriptive statistics by component and factors of the scale Learning Strategies, by age group (Young and Adult)

Factors	Age Group	N	Mean	Standard Deviation	Median
Repetition	Young	41	4.82	1.15	5.00
	Adult	19	5.16	1.49	5.50
Elaboration	Young	41	4.99	0.95	5.17
	Adult	19	5.58	0.98	5.67
Organisation	Young	41	5.30	1.29	5.25
	Adult	19	5.54	1.25	5.75
Critical Thinking	Young	41	5.02	0.84	5.00
	Adult	19	5.22	0.89	5.40
Metacognitive Self-regulation	Young	41	4.24	0.79	4.33
	Adult	19	4.49	0.89	4.75
Environment and time management	Young	41	3.29	0.84	3.63
	Adult	19	3.28	0.90	3.38
Effort regulation	Young	41	2.68	0.51	2.75
	Adult	19	2.88	0.52	3.00
Peer-learning	Young	41	4.74	1.58	5.00
	Adult	19	4.68	1.38	5.00
Seeking of help	Young	41	4.30	0.94	4.50
	Adult	19	3.92	1.33	4.25

The average scores for both groups are higher in the component «cognitive and metacognitive strategies». The students in these groups use strategies that help control and regulate their own cognitions. On the other hand, there are two factors that have low scores, thus indicating lack of use: «Effort regulation» and «Time and environment management».

Relationship between Motivation, Strategies with modality and age group

To perform this analysis, the ANOVA statistic (GLM, a particular case of ANOVA, used for groups of different sizes) was used: «it is a statistical test to analyse if more than two groups differ significantly in their means and variances» (Hernández et al., 2010, page 322). In this analysis, we relate a dependent variable (Motivation and / or Learning Strategies) to an independent variable (modality and / or age group).

With this procedure, the following null hypothesis is tested:

H0: Students of different modality (or age group) present the same average score in the Motivation or Learning Strategies scales.

Contrast of the variables modality, age group and Motivation

The GLM Procedure: Dependent Variable MOTIVATION

Independent V.	DF	Type I SS	Mean Square	F Value	Pr > F
Modality	1	0.37500199	0.37500199	1.03	0.3134
Age Group	1	2.34699417	2.34699417	6.50	0.0135

In the case of the age group variable, the probability, less than 0.05, allows to show that there is a statistically significant effect of age on Motivation. To know the age group with the best motivation, a method of contrasting means was applied, which indicated that the group of adult students possesses greater motivation than the Young group.

Contrast of the variables modality, age group and Strategies

The GLM Procedure: Dependent Variable STRATEGIES

Independent V.	DF	Type I SS	Mean Square	F Value	Pr > F
Modality	1	3.57874196	3.57874196	6.61	0.0129
Age Group	1	2.32706420	2.32706420	4.30	0.0428

Both variables affect the Learning Strategies used by students, since they obtain probabilities smaller than 0.05.

The factors that make up the scale and that are affected by the modality variable are:

Dependent V	DF	Type I SS	Mean Square	F Value	Pr > F
Critical Thinking	1	2,84444	2,84444	4,09	0,0479
Environment and Time Management	1	3,37852	3,37852	4,91	0,0306

The analysis of means by groups showed a significant difference, favouring the daytime group over the evening group. Critical thinking is considered as a cognitive strategy that alludes to the students' attempt to think in a deeper, reticent and critical way about the material of study.

In the case of the variable «Time and environment management», the morning group also has a higher average than the evening group.

For the case of the age group variable, this affects the Elaboration factor:

The GLM Procedure

Dependent V	DF	Type I SS	Mean Square	F Value	Pr > F
Elaboration	1	4,53701861	4,53701861	4,94	0,0301

The average score of the «Elaboration» strategy is significantly different, favouring the Adult group. This strategy enables deeper processing of study materials by using paraphrasing or summaries.

Conclusions

In this research, the features that characterise a self-regulated student were analysed, that is to say, the degree of presence of the cognitive, metacognitive and motivational components that the students of the aforementioned Programme possess. These components correspond to the self-regulated learning model proposed by Dr. Pintrich. In the same way, Alvarez (2009) argues, indicating that self-regulated behaviour reflects students' commitment to the task, their desire to carry it out and, therefore, compromises their motivation and their will.

The results found to characterize the students participating in the study were not entirely satisfactory, since they did not allow students to meet the characteristics to be classified as self-regulated. In fact, they are highly motivated to study, but, on the other hand, they claim to manage very few and isolated learning strategies.

The identification of age as a variable that affects the components of self-regulation, such as motivation and elaboration strategies, which were favourable for the group of adult students, as well as the modality of study that affects critical thinking strategies and Time Management-favourable for the evening group- is data to consider in order to make some changes that allow for the development of other strategies of learning.

The data obtained showed that intervention programs must be carried out taking strategies into account, that is, the student becomes aware of the strategies involved, especially those not directly observable and that refer to the regulation and management of metacognitive strategies. Greater knowledge about the subject will allow students to be aware of their diminished traits and take actions to encourage their development. These data are in line with the latest research stating that learning strategies can be learned and are under the control of students (Parra, 2014).

Teachers should be aware of our role as generators of learning environments, including challenging and contextualized activities and tasks, valuing students' efforts and encouraging them permanently towards commitment, supporting them in their learning-to-learn process has been established as one of the objectives of contemporary university education.

Finally, the results of this study are not only valuable in themselves, but they are also valuable as points of reference and discussion for future research.

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Fieldwork didactics for environment teaching

Natalia Contreras Quiroz¹

Abstract

Bearing in mind that contemporary society considers ecological issues as a necessity that must be taken seriously on a global basis and that education has a lot of responsibility in this area, the incorporation of environmental education in the curriculum of different Programmes is a great challenge. The main challenges are to develop curricular proposals on the theoretical contents to be taught and to offer didactic methodologies to ensure the learning of these contents.

In this context, this research project seeks to investigate a specific didactic methodology called «fieldwork», in which contemporary environmental interests and the curriculum merge for History and Geography students, in order to find common grounds between specific themes related to environmental education and a didactic methodology that facilitates their teaching, starting from the premise that both elements should be considered part of the minimum contents in teacher training.

Objectives

General objective:

To develop a methodological proposal for the teaching of environmental education, based on fieldwork didactics.

Specific Objectives:

- 1) to know the presence of environmental education issues in UCSH's educational project.
- 2) to describe the experience of a group of students of the History and Geography Teacher Training Programme at UCSH, after conducting a course on environmental education issues and based on fieldwork didactics.
- 3) to make a curricular proposal for the History and Geography Teacher Training Programme, which considers among its subjects, a course on environmental education through the methodology of fieldwork, based on the analysis of the students' own experience.

Presentation

This research project is part of the development of one of the courses of the curriculum of the History and Geography Teacher Training Programme; The course «Seminar and promotional field» aims to provide theoretical and practical elements that allow the student to critically understand the relationships between human groups and the environment in which they settle. The theoretical basis of the course is based on

¹ Lecturer, History and Geography School of Education, Universidad Católica Silva Henríquez. E-mail: ncontreras@ucsh.cl

environmental education and seeks to develop skills and didactic skills in students so that, in their future as teachers, they could replicate this kind of behaviour.

The contents of the course are associated with three phases. In Unit I, classroom exercises are carried out. There are debates and each student must, every week, read different documents with the aim of acquiring a theoretical basis on topics of environmental education and didactics.

Unit II focuses on patrimonial protection as an issue of interest in environmental education. We review cases where museums, local historical and natural spaces are transformed into sources of knowledge and, in turn, in appropriate spaces to put into practice the aforementioned methodology.

The final stage, Unit III, corresponds to a field visit. In this case, a three-day visit to the Sixth Region, General Liberator Bernardo O'Higgins. Forty-seven students and three teachers participated in this activity. Students were divided into teams, which had research topics and roles assigned to fulfil different tasks.

Environmental Education

In its broader sense, environmental education is lifelong education. Since in a context of rapid change, as is the historical path of our current society, we must be prepared for the understanding of major problems. Environmental education must provide the necessary skills and attributes so that students are able to make improvements to our quality of life while protecting the environment. Its purpose is to form environmentally responsible citizens, to live in harmony with nature and to promote the fair distribution of resources in society.

Both individuals and communities must learn and understand the complexity of the natural and humanized environment they inhabit, as it is a product of the interaction of biological, physical-chemical, social, economic, political and cultural factors. In this sense, it is necessary to take effective responsibility in anticipating environmental and social problems. Environmental education will contribute to the development of a sense of responsibility and solidarity among different regions as the basis of a new national order to guarantee conservation, preservation and improvement of the environment (Rengifo et al., 2012).

Environmental education corresponds to a global and comprehensive plan of principles and lines of action, which guide the present and future actions of institutions, companies and social agents. In other words, it aims to create an environmental ethic in the population.

At the same time, it makes education responsible for sustainable development. Novo (2009, p.197) explains that:

Education faces at least two inescapable challenges: on the one hand, the ecological challenge, which implies helping to train, not only young people and children, but also managers, planners and decision makers, to guide their values and behaviours towards a harmonious relationship with nature; On the other, the social challenge that, in a world in which wealth is very unfairly distributed, impels us to radically transform the structures of management and redistribution of the resources of the Earth. Both issues are true reference points when talking about sustainable development.

The first steps in this issue were taken, in 1975, at the Belgrade Seminar. Organized by Unesco and UNEP, it is a foundational act to launch the International Environmental Education Programme. The Charter of Belgrade was signed as the main product of this meeting, which establishes the basis of this movement:

To form a world population that is conscious and concerned with the environment and associated problems and that has knowledge, aptitude, attitude, motivation and commitment to work individually and collectively in the search for solutions to existing problems and to prevent new ones. (Unesco, 1976)

This baseline discusses the importance of thinking about the consequences of using the Earth's resources. It is even possible to argue that these ideas will be of great importance for the emergence of the concept of «sustainable development» first proposed in the United Nations' Brundtland Report in 1987.

Two years after the Belgrade Seminar, in 1977, the Intergovernmental Conference of Tbilisi (Georgia, USSR) was held. The main objective was to establish a responsible relationship between the new ideas of economic development, the exploitation of natural resources and the solution of environmental problems. It was established that environmental education should be given to people of all ages, at all levels and within the framework of formal and non-formal education (Unesco, 1980). The invitation to education institutions is clear: students should be made aware of the importance of sustainability, knowledge of values, skills, experience and also the determination that enables them to act in a harmonious relationship with nature.

In 1992, during the development of the Earth Summit in Rio de Janeiro, environmental education theorists and representatives of civil society around the world signed the Environmental Education Treaty for Sustainable Societies and Global Responsibility.

The most important established principles are (Novo, 2009, p.209):

- Environmental Education stimulates the formation of socially fair and ecologically balanced societies.
- Preparedness for change is considered to depend on a collective understanding of the systemic nature of crises that threaten the planet's future.
- The primary causes (...) can be identified in the dominant civilization model, which is based on overproduction and overconsumption for some and under

consumption and lack of conditions to produce by the vast majority.

- The need to abolish development programs, adjustments and economic reforms that maintain the current model of growth, with its terrible effects on the environment and the diversity of species, including human beings.

Promoted by Unesco, environmental education was consolidated and installed in government educational programs through the Decade of Education for Sustainable Development 2005-2014, proclaimed in 2002 by the General Assembly of the United Nations. Its objectives emphasize the need to integrate the perspective of sustainable development at all levels of the education system, with the aim of making education an agent for change. The proposal is that this change should be extended to all areas of society.

At this point a critical situation arises, and it is related to the fact that there is no universal model of education for sustainable development (EDS), transforming it into a principle of transverse responsibility. The main goal of EDS is to integrate the values of sustainable development into all aspects of education (...) through all forms of education«.

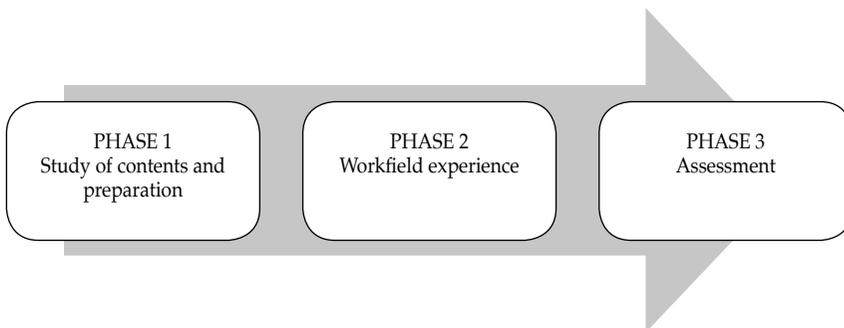
The next pages show a didactic proposal developed to tackle the teaching of environmental education in higher education.

The methodology of fieldwork

This activity is usually led by one or more lecturers who must carry out the work of managing and planning academic tasks and an out-of-class trip, for example: designing an itinerary, hiring transportation, coordinating guided tours - In case of attending places that facilitate them, worry about the safety of the entire group of students, among many others.

Fieldwork is not an impulsive or improvised activity; it must be planned in detail. The lecturer who guides the process must contemplate at least three key phases for the academic success of this methodology:

Diagram: phases of fieldwork methodology



In the first phase, you must know the contents that you want to learn from the experience of fieldwork. The objectives and activities of this experience should be told to students. This is a very important phase, since it is necessary for students to understand that what they will experience is a complex academic exercise, associated with expected learning and concrete assessments. It is essential to avoid association with any type of recreational activity.

The second phase is the actual fieldwork experience. This moment represents the «climax» of planning, since it is the instance in which the contents studied in the first phase are evidenced by direct observation. This part of the planning is at an intermediate stage and not final, because making an evaluation of the work, examining learning outcomes and consolidating contents is considered crucial. It is, therefore, necessary to allocate time for the third phase, which is precisely the moment in which the critical reflection of what has been learned is done.

To analyse the experience implemented from the achievements of the students, individual and group interviews were conducted. This information was processed in light of the content taught during the semester. Students' statements in interviews showed a broad and complex understanding of the major topics of study. These are synthesized in the following table and account for their own learning:

Topic	Findings
Definition of education built from experiencing fieldwork.	<ul style="list-style-type: none"> • Environmental Education is a complex disciplinary field, which deals with the relationship between human beings and their environment, incorporating ecological and anthropogenic elements to promote the protection of the environment. • The disciplinary complexity of Environmental Education must be understood in the logic of the systemic functioning of the environment in an integrated view. • The role of Environmental Education in contemporary society is to be a creator of awareness about environmental protection. • Raising awareness about the protection of the environment through education is a joint objective between teachers and students. The teacher must guide the process and students are incorporated as citizens concerned about the issues of their society. • Environmental Education requires direct contact with environmental problems. • Direct contact with environmental problems favours a harmonious and affective relationship between human beings and the environment.
Field work as a methodology for the teaching of Environmental Education	<ul style="list-style-type: none"> • Fieldwork is a didactic experience that contributes academic and professional competences to teacher training. • Promotes soft skills, such as teamwork. • Encourages critical thinking in problem-solving tasks. • Allows for the understanding and explanation of problems related to the analysis of historical and geographic areas. • Promotes new sources of knowledge and construction of learning, through landscape observation and collaborative learning.

In addition, the course had traditional content evaluation processes: activities with summative assessment and attendance requirement (60%).

99% of the students passed the course. The student who failed the course decided to drop it out.

Conclusions and main findings

The overall analysis of the activity is positive; however, there are elements that have been revealed by the students themselves that need to be improved. Although the methodology of fieldwork takes advantage of the analysis of the landscape, having a wide variety of landscapes is not required, so it is not necessary to visit many places. Carrying out three activities during one day caused pressure on the students and a generalized dissatisfaction with the possibilities of learning.

In addition, it was observed that students were willing to work as a team to analyse environmental problems, so, for future work, it is proposed to incorporate a problem-based learning methodology. Contrasting theory with reality and subjecting this exercise to critical reflection allows students to develop skills and abilities to solve environmental problems and, consequently, to enhance their right to citizen participation.

One way for the knowledge of environmental education to be meaningful for students and to help them think critically about reality is dealing with social problems derived from coexistence with the environment.

Planning a fieldwork activity that focuses on only one or two specific problems makes a large amount of information available to students, which they can directly observe, investigate, criticise, and try to explain by means of the content studied in classes; they can even imagine solutions and discuss them with their own classmates.

During the semester, it was possible to demonstrate that fieldwork is possible and that connecting this type of methodology to Environmental Education is a positive instance for History and Geography teachers.

The theoretical analysis of the environmental concept has made evident that the internalisation of the contents by the students generates attitudes and behaviours that are effectively present throughout their lives. This is fundamental for the protection of the environment, since these future teachers are part of a process in which they become agents of change and social transformation that allows the construction of environmental citizenship.

Educating citizens with critical thinking and clarity about their role in society is not achieved through the transmission of content from the teacher to the student as the only didactic strategy. Young people should be stimulated by educational proposals that include, in addition to the basic assumptions of constructivism, mastery of critical thinking skills and the development of attitudes, values and norms, which together allow them to act as citizens.

These motives impel the proposal that the curriculum of the History and Geography Teacher Training Programme at UCSH must incorporate a course related to environmental

education and, in addition, provide didactic training to students so that they can transmit that knowledge successfully. It should also be considered that the themes of environmental interest and human ecology are part of the paradigm that guides the ideals proposed by UCSH.

This teaching practise has sought to take care of those needs, investigating how long-lasting learning with a recognisable impact on society is achieved.

The UCSH training model quotes Jacques Delors (1996), who points out that there are elements that must always be present in education:

- Learn to be: Education must contribute to the overall development of human beings.
- Learn to know: Education should promote a broad culture with the possibility of deepening knowledge in specific areas.
- Learn to do: Education should promote the acquisition of skills that enable people to face a variety of situations.
- Learn to live together: Education must develop the understanding of the other, the perception of interdependence and the importance of teamwork, recognising cultural diversity, accepting differences as strengths and respecting the values of pluralism, mutual understanding and peace.

The main conclusion of this task is the satisfaction of achieving the development of these dimensions through the proposed activity. In addition to fully committing to the constant improvement of the History and Geography Teacher Training Programme at UCSH.

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A study on the influence of singing on initial teacher training, as a perceptive and protective factor of the well-being of the use of voice

Germán Greene Cuadra¹

Abstract

This study aims to highlight the efficacy of teaching singing in initial teacher training, through the study of the perception of malaise/well-being of the vocal function while teaching. For this purpose, the WHI questionnaire was used and structured interviews were conducted with graduated students of the Art Teacher Training Programme, minoring in either visual or musical arts, who have been working more than 20 hours a week in the Chilean school system and for more than two years.

The results show that the use of the diaphragmatic support and head resonance developed by the study of singing is a factor of protection and perception of well-being of the vocal function in teaching practises.

Introduction

One of the tools of the teaching-learning process is student-teacher interaction, intermediated by a complex communication system, in which the vocal function is indispensable and irreplaceable. However, in our country, curricula that promote the adequate use of voice as a methodological tool are scarce for initial teacher training, except for the courses designed to train future teachers of music education.

It is common to be exposed to a myriad of factors or ergonomic conditions that affect health in general and vocal function in particular. At UCSh, the students of the Art Teacher Training Programme, minoring in musical arts, have in their curriculum a training in vocal musical performance competitions, both in solo group forms. This study focuses on the perception of health deterioration regarding the state of the vocal function in graduated students of the aforementioned programme who started their education in 2007 and 2008. They work, on average, 20 hours a week.

The study concludes that the vocal training received by teachers who graduated from the programme has been a factor that protects their professional practice. They are aware of the impact of this training and consider it as important, since it has allowed them to work without vocal difficulties, which has led to them feeling that they have the theoretical and practical resources in voice management, contrasting their situation with colleagues of their same field of work who have not had this training. They can clearly identify the most important technical resources, such as the use of projected voice,

¹ Head of Art School of Education, Universidad Católica Silva Henríquez. E-mail: ggrene@ucsh.cl

which is the working voice of a teacher «that allows them to reach the whole audience» (Olatz, 2013, p.3). And the use of the abdominal murmur as sustenance of the latter, differentiating it from the voice of urgency, which coincides with studies carried out by Grillo (2000) and Siqueira (2002), indicating the positive evolution in the reduction of shouting when teachers are vocally trained.

This paper proposes three areas of understanding: development of a methodology for obtaining information, obtaining results, and conclusions.

Methodology

The aforementioned relationship was studied by applying the VHI questionnaire (vocal incapacity index), which determines - using subjective parameters - the status of the vocal function, and the relationship of this perception with the received training. The study was carried out with the participation of the graduated students who started their programme in 2007 and 2008, who work an average of 20 hours in the Chilean school system. On the other hand, the control group was represented by graduated students who started their programme in 2007 and 2008, but whose minor is Visual Arts. They also had 20 hours of work in the Chilean school system.

Authors such as Hogikyan and Sethuraman (1999), Satalo and Abaza (2000) and Smith, Taylor, Mendoza, Lemke and Ho man (1998) have pointed out the importance of subjective parameters in assessing the state of vocal function, when they become a nuisance for the development of the activities of the human being, they become symptoms of a possible disorder or vocal pathology.

The Voice Handicap Index (VHI) is a valid instrument for assessing the impairment associated with the patient's perceived dysphonia (Núñez-Batalla, Cortez, Señaris Llorente, Gorriz-Gil and Suárez-Nieto, 2007, p. 386). It is a questionnaire developed by Jacobson and Grywalski (1997) to quantify the impact perceived by a subject affected by a vocal disorder in the areas of their own vocal function, related physical ability and emotions. This instrument has been adapted to the languages of many countries as a valid instrument for the assessment of vocal impairment. In Spain, the VHI has been translated by the Spanish Society of Otorhinolaryngology (Núñez-Batalla et al., 2007). This index contributes to the perception of the respondents' well-being ratings. In general, studies show that there is a correlation between the results of this index and diagnosed pathologies, since the instrument discriminates against people who suffer from vocal impairment from those who do not, so the WHI is the easiest questionnaire to complete by teachers and the one that contains the most relevant information regarding the quality of life related to the sensations in the use of voice (Núñez-Batalla et al., 2007, page 387).

Barbero, Ruiz-Frutos, Del Barrio, Bejarano and Alarcón (2009) made a connection between the terms «dysphonia» and «incapacity». They pointed out that disability is not «a decrease in the ability to perform activities for any subject of their characteristics» (Oms, 1997) and dysphonia as any alteration of vocal function. In turn, they distinguished

teachers as voice professionals, since teachers are individuals who use it as a tool and main means of work performance (Barbero et al., 2007, p.) Thus, literature describes dysphonia as an inability to develop professional work, in the case of teachers, since one of the most important qualities of professional practice would be affected.

Elhendi, Vázquez and Santos (2012) worked with a set of patients diagnosed with vocal polyps using the VHI questionnaire and demonstrated their ability to correlate the objective aspects of the pathology with the sensations of vocal incapacity. Murry and Rosen (2000) connected the usefulness of VHI results to the therapeutic strategies to be applied in patients diagnosed with vocal disorders. Regarding the importance of symptoms as predictors of degrees of disability, Le Huche et al. (2004) pointed out that the symptoms are the subjective feelings that most affect an individual, since the existence or not existence of symptoms determine the degree of comfort or discomfort in the self-perception of the own vocal function, both in the quality of phonation and the sensations experienced in the vocal tract.

For the analysis of the interviews carried out, a series of stages were put into place, which led to a clearer idea of the opinion of the graduated students of visual arts and musical arts. Categories were established and the codes that were used for the analysis were made; data reduction was done in an inductive manner, since the analysed categories emerged from the results obtained from the interviews with the entities that were part of this research. This analysis was carried out from the coding process, in order to «have a more complete description of the data, where it is summarised, the relevant information is eliminated; And quantitative analysis is also performed; It is a question of generating a greater degree of understanding of the analysed material» (Hernández, 2006).

Results

Sociodemographic characterization of the sample

The population studied represented a mean age of 27.6 years of age, 56.86% were female and 43.13% were males. Most of them - 86.76% - work in the Metropolitan Region, in subsidized private educational institutions - 76.4% - and with an average of working hours of 31.49 hours per week and with 35 students per level.

Summary table	
Age	27.6 years of age.
Sex	56.86% female
Metropolitan region	86.76%
Subsidized private school	76.4%
Working hours	31.49 hours
Number of students per course	35 students

Functional dimension VHI

Graduated students with a minor in musical arts obtained an average score of 2.29 points, with a low level of dispersion, which means that the average value is representative. 17.6% are in the range representing absence of incapacity and 82.3% in the range of mild disability. Regarding the definitions of the instrument in this dimension, those who obtained higher scores correspond to an inhibition to the use of telephones and the self-perception of alteration of personal and professional life, but always in a range that is not significant. Similarly, the statements that obtained lower scores are related to the perception of voice effectiveness.

Graduated students with a minor in visual arts obtained an average score of 6.17 points, but with a wide range of dispersion, making this fact the reason why this value could not be totally representative of the sample. 14.75% are in the range of absence of incapacity, 64.7% present slight disability and 26.4% present moderate disability. The results of the instrument that obtained the highest scores are related to the effectiveness and efficiency in the use of the voice and, on the contrary, the statement that obtained a lower score is related to social relation not being hindered by these factors. From the gathered data, it can be pointed out that there is a difference in the perception of the behaviour of the voice as to the efficacy of its function, being the group of graduated with a minor in musical arts the ones who do not register an inhibitory factor in the use of their voices. In contrast, a significant percentage of the visual arts sample is in the range of moderate disability and the highest scores are obtained in the statements that are precisely related with the effectiveness of the function of phonation, so they present more inhibitory attitudes of the use of vocal function.

Organic dimension VHI

Graduated students with a minor in musical arts obtain an average score of 4.47 points, with a low level of dispersion, which makes the average representative. 17.6% are in the range of absence of disability and 82.35% possess mild disability. In relation to the organic dimension statements that obtain, on average, higher scores, it can be seen that these relate to the perception of variation of vocal quality in the course of the day; On the contrary, the lowest value is related to pathological alterations.

Graduated students with a minor in visual arts obtained an average score of 15.2 points, but with a great dispersion, making this value representative of the total of the sample. 11.7% had no disability, 26.4% had mild disability, 32% had moderate disability, 20.5% had severe disability and 11.7% had extreme disability. Regarding the statements that obtained higher scores in this dimension, we can find the ones related to the perception of vocal quality variation during the day; On the contrary, the lowest value is related to the alteration of pathological character. From the gathered data, it can be pointed out that there is a significant difference between the two groups regarding the perception of negative feelings of the compensatory mechanisms used to perform the phonation action.

In the same way, although both groups obtain the maximum and minimum values, the differences in scores are significant. As has been stated, this instrument (VHI) has verified its correlation with diagnoses of vocal pathologies, so it could be presumed that a third of the sample of the group of visual arts graduated students could have some pathology associated to the use of voice.

On the contrary, in the sample of musical arts graduated students, there are no cases of moderate, severe and extreme incapacity, which would indicate some slight degree of discomfort, but not a pathology.

Emotional dimension VHI

The graduated students with a minor in musical arts obtained an average score of 0.76 points, with a low level of dispersion, which means that the average is representative of the sample. 58.8% are in absence of a disability and 41.1% have mild disabilities. In relation to the emotional dimension statements that obtain, on average, higher and lower scores, it can be stated that there are no indications that can be indicative of impairment, since the range fluctuates between 0 and 0.23.

The graduated students with a minor in visual arts obtain an average score of 4.41 points; 29.4% registered absence of disability, 55.88% had mild disability, 5.8% possessed moderate disability and 2.9% severe disability. With respect to the statements of this dimension that are more relevant as to their value, these have to do with annoyance with one's own voice, since it would be an impediment to progress in life. On the contrary, the lower values relate to the idea that, although I have problems with my voice, I still do not feel it like an impairment.

Global Results VHI Questionnaire

From the results of the three dimensions of the VHI applied to the study group of graduated students with a minor in musical arts and as a control group the graduated students with a minor in visual arts, we can point out the following:

- Musical arts graduated students do not show significant impairment in any of the observed dimensions - functional, organic and emotional - obtaining scores that reflect a normality associated with a slight disability, which is the one that the majority of the population possesses. In this way, inhibitory behaviours provoked by the poor performance of the phonation function are not observed. Organic differences are not relevant, nor are they compensatory mechanisms that demonstrate damage associated with vocal pathologies. Likewise, the emotional aspects that could be affected by a vocal functionality are not observed in a significant way.
- Visual arts graduated students show impairment of their vocal function. Although it is true that the arithmetic means of the scores obtained in the different dimensions represent a slight incapacity, data shows a high dispersion, making it a not

representative sample. In this sense, it can be noted that in all three dimensions there is a percentage of the population studied that is in the ranges of moderate, severe and extreme disability. When analysing the values as a whole, almost 40% of this group of graduated students is in the range of moderate and severe disability. In relation to the data, it can be pointed out that there are differences in the perception of the state of vocal function among both groups.

Analysis of the interviews to the graduated students

With regard to the category «Professional Voice Management Training» (FMVP), most visual arts graduated students have not received any training in relation to the acquisition of competencies for the use of professional voice, a tool that is fundamental for this profession, since voice is a teacher's fundamental tool and it is very common that they present dysphonia or aphonic problems throughout their life, being chronic in some cases and producing incapacity to work. There are some cases in which these graduated students, having to face long hours of work in front of students, have taken on their own use of voice courses. One of the graduated students who took singing lessons realized that, when taking classes and using these technical principles in the classroom, their voice management improves ostensibly.

On the other hand, it is clear from these perceptions that professions related to creative manual-visual work do not require use of voice, so to operate and increase this skill is not a fundamental concern in the formative process. The fact that there is no culture regarding the proper use of voice education is also significant. This is due to the fact that most lectures are procedural, with little space for presentations. There is no preferential attention to how they speak from a technical aspect, let alone how the voice is used, since these activities occur in friendly, small and often condescending contexts with students. On the contrary, teachers of musical arts indicate that they have received training or specific training for the management of the voice. The majority express that this training was carried out by singing on one of the courses at UCSH.

In relation to the «Characterization of vocal training» (cfv) category, it can be observed that visual arts graduated students who received some type of vocal training did so after the university training period, on their own account. It may be said that none of the respondents indicated having had training in the use of professional voice as part of their undergraduate training at University. This is a common phenomenon to teacher training programmes at UCSH, because, except for the Musical Arts minor, there is no account in their curriculum for voice training activities.

On the other hand, the graduated students with a minor in musical arts mention that the training received was part of the curriculum of their programme, on courses such as, education of the voice, choral practice and vocal interpretation. It can be pointed out then that the voice training received by the graduated students was related to general voice techniques.

Regarding the «Importance of Training» (if) category, it can be pointed out that all the graduated students consider that professional voice training is essential for the teachers. In relation to their own experience, differences are established between the two groups analysed. Visual arts graduated students report that, while being training they were never aware of the need for a suitable voice for teaching. Once inserted in the school system, they suffered from the lack of training, by feeling vocal impairment.

Music teachers, on the other hand, have been sensitised since they are aware of the importance of the voice in their professional performance, since singing is one of the main tools for the development of musical skills in children. Teachers of music education are in charge of this development. This group expresses the importance of having a theoretical support to adapt the vocal technique to the different situations of teaching. It is also emphasised that the voice is one of the most important tools for a teacher, since it is used daily and having had vocal training becomes a resource of protection against the ergonomic demands of the profession. In addition, it is proposed that this training should cover all students of who wish to become teachers, regardless of their area of study.

In relation to the «training stage» (ef) category, which refers to when the competences for the use of professional voice should be acquired, both groups of graduated students agree that the university, during teacher training, should provide them with such training. In general, they agree that it should be gradual and therefore throughout the undergraduate programme, proposing various modalities - workshops, courses, seminars, etc. Therefore, the approach that could be considered as «small workshops» for teachers is not a definite solution, because in the scope of these competences there is a difference between working with large and small groups.

In relation to the «Difficulties in professional practice» (dep) category, it is possible to point out that training in the use of professional voice, or lack thereof, has profoundly affected the professional practice of both groups of graduates. The visual arts graduated students realise that the lack of training has caused difficulties in their daily work, because their students cannot hear what they say or their instructions, which, added to numerous courses, forces them to repeat several times, scream or force their voices. They see this situation as a major impediment to their professional practice: «I would like to continue teaching, but my voice does not allow it.» Likewise, there is a feeling of wear and tear that affects their quality of life, not only in the labour aspect, but also in their personal sphere: «in my personal life, as there are times that I cannot speak much, I tell the people with whom I communicate that I cannot speak.» On the contrary, graduated students with a minor in musical arts consider that it was very important to have had vocal training, as it has allowed them to have good classroom management. They do not have the need to scream or wear out their voice to give instructions. It is interesting to compare them against colleagues from other disciplines, because they can be seen with

voice problems. They have even had to conduct workshops on the use of professional voice: «I can transfer my own experiences to other teachers.» In addition, they thank and give importance to the training received: «that kind of training has kept me healthy».

Regarding the «Technical aspects» (at) category, it is observed that there is a great difference between both groups of graduated students. Visual arts teachers do not report technical procedures or use appropriate language; A few comments refer to getting «the voice out of the stomach», which does not represent what happens in reality. On the contrary, the graduated students with a minor in musical arts demonstrate the use of appropriate technical language, manifesting a correct process of vocal production. In this sense, the most important mechanism identified is vocal support, which is related to the management of air pressure, which is related to the ability to use bone structures to amplify and project the sound, as opposed to the use of the larynx. These two concepts are directly related to what we have referred to as «abdominal breath» and «projected voice».

Regarding the «Repercussion in their future work» (rfl) category, some visual arts graduated students point out that it is not necessary to think about the future to see negative consequences, since the lack of training has already affected their health: their voices have changed, they do not have the voice they had a few years ago... that's what my daughter tells me, 'Mom, you're talking differently.' Other graduated students of this group are generally worried about their future, assuming that at some point their voice will wear out and they will not be able to continue working. Only a small amount of students expresses as a possible solution the possibility of having training for the professional use of the voice. Graduated students of musical arts express that to have had training in the use of professional voice is something that protects them, especially when they make the comparison with their colleagues, who possess many vocal problems.

CONCLUSIONS

The study has sought to investigate the relationship between undergraduate training in the use of voice and the perception of health / deterioration of the state of the vocal function of the graduated students of the 2007 and 2008 teacher training programme minoring in visual arts and musical arts.

It can be found that both groups of graduated students agree on the sociodemographic aspects. It can be characterized that, taking the arithmetic mean data, the average age of the students is 27.6 years old. They work in the Metropolitan Region conducting direct teaching, 31.49 hours a week, in subsidized private institutions and with 35 students in each class. In the group of graduated students of musical arts, the predominant gender is male, unlike the group of graduated students of visual arts, whose predominant sex is female. By taking this into consideration, we can say that the populations have characteristics that make them comparable to each other, not biases that may influence or make the results different.

To record the perceptions about the state of the vocal function, two instruments were used, the VHI and structured interviews. From the analysis of these instruments, we can conclude that the graduated students of musical arts evidenced a good appreciation of the state of their vocal function, registering a good perception of the vocal functionality, which remains strong as an instrument of communication. «I do a lot of activities in the yard and those activities need vocal effort.»

In the same way, they are able to position themselves professionally by being able to adapt to the different situations of the teaching process, obtaining good classroom management, combining the spoken voice with having a clear awareness of the voice as one of the most important tools for a teacher. «Well, what we usually use is our voice, especially us -teachers of music, we usually have to sing with our student, etc. When you have more challenging courses, in my case, where you have to raise your voice for the whole class to hear or more spacious rooms, I tend to use my voice more».

Many of these graduated students, after seeing the difficulties of their colleagues, have developed training initiatives in their school communities, becoming a reference for the importance of the use of professional voice in teaching: «I can transfer my own experiences to other teachers, who already have voice problems. «For me it has been very important, in fact, it has been an area of interest that I have shared with other teachers.»

From the point of view of the perception of organic-like symptomatology, graduated students of musical arts do not have negative signals related to phonation. Similarly, the compensatory mechanisms of organic alterations in vocal function, such as the use of the voice of urgency, are not present, so it can be inferred that these graduated students perceive their voice as healthy. «That training has kept me healthy.» «Well, the fact of not being able to use the voice implies a weariness of the voice, therefore, I believe that I have not seen it harmed because I have learned to use it.» «Every time I finish teaching, my voice is really good.»

As far as the emotional perceptions about the use of the voice in the group of musical arts go, there are no aspects that could be considered as negative; On the contrary, they emphasise that the training was a contribution to personal self-esteem, feeling that they have a valuable tool that the rest of their colleagues do not have.

The group of visual arts graduated students, on the other hand, presents a regular perception of the state of their vocal function. Some of them have been diagnosed of pathologies and even have had surgical interventions. Inability related to the efficacy of the function of phonation is evidenced, showing inhibitory behaviours of the use of the vocal function: «now I have a very tired voice and it is only three thirty in the afternoon and I have a whole working day ahead» «There are days where I do not know if I want to continue teaching or if my voice would allow it, because I start to cough when I talk a lot» «In my personal life, there are times that I cannot talk much, I tell the people with whom I communicate that I cannot speak.» «When you are working with young

children, you have to shout a lot because they are accustomed to being shouted at to keep silent, and there are 45 students per classroom and the infrastructure of the school does not help you, you wear your voice a lot, you end up very tired after teaching «Students also find it hard to hear me.»

The perception of the organic aspect is more negative, assuming, from the results of the instrument (VHI), that at least one-third of the sample of this group would have some pathology associated with the misuse of the voice, which is also demonstrated when checking the appearance of compensatory mechanisms used to perform: «itchy throat and constant coughing.» «After some time, I had to ask for a sick leave because I had trouble with the vocal cords.» «Constant aches and pains in the throat.» «It affects my health, because the consequences come after lessons: sore throat, burning sensation.» «I've had certain problems with my throat.» «Once a year, I become sick because of my voice, with dysphonia or pharyngitis. Everything is related to my throat.» «But now, after receiving a surgery, I should follow a treatment so not to have any more problems.»

With regard to the emotional aspects of this group of graduated students, it can be stated that the evidenced vocal problems are perceived as problems of the profession, that is to say, there is a preconceived idea that voice problems are part of teaching and that, in a few cases, these alterations have had an impact on personal life. They stated the following: «I am aware of the importance of my voice. I have problems with it, but this problem is limited to teaching, so I do not feel like an invalid» «I think sooner or later I will have some health issues.» «If you continue to work as a teacher for your entire life, I think it will have a significant impact on the quality of life you are going to have»

What is more, we know that the recognition of a negative situation, from the visualisation of the affectation in emotional aspects of life, is given after the organic symptoms are transformed into chronic, therefore, this aspect is relativized, because they have not been working for long. In this sense, it can be pointed out that in the literature review, the organic section is the one that achieves the highest scores, and the emotional section achieves lower scores.

In the same way, we know that a significant percentage of teachers deserted from working as such. According to Valenzuela et al. (2013), 20% of teachers in Chile withdraw from themselves from teaching after the first year and 40% after five years of work. While there is no research on the causes, Valenzuela, citing Avalos (2013), says that it «signals a tremendous emotional wear and tear on new teachers.» From this, we could say that a negative self-perception of the state of the vocal function undoubtedly contributes to the indicated emotional exhaustion, since the professional self-esteem and the associated life projects come into question. In the same way, these conclusions are validated when we observe the results of the total values of the VHI. The group of graduated students with a minor in musical arts obtains a mean of 7.52 points, with low dispersion of data, in comparison to the group of graduated students with a minor in visual arts, whose mean is 25.9 points, but with high data dispersion. When comparing these results with

other studies of groups of undiagnosed teachers, these record an average of 15.40 points (Barbero et al., 2010); Of 8.1 (Núñez et al., 2007) and 10.5 (Guimaraes et al., 2004).

In contrast, in the study related to teachers and other professionals diagnosed with functional dysphonia, the mean was between 40.9 points and 46.9 points, but with a high dispersion of data (Núñez et al., 2007).

In relation to the objectives, this study and its analysis have allowed us to infer the following conclusions:

- The group of musical arts graduated students has a good perception of the health status of their vocal function, and there are no signs of vocal incapacity.
- The group of visual arts graduated students does not have a good perception of the health status of their vocal function. There are cases of severe and extreme disability.
- Musical arts Graduated students evidence the training received in their undergraduate programme.
- Visual arts graduated students evidenced that they did not receive training related to the use of voice in their undergraduate programme.
- Musical arts Graduated students of value the training received in their undergraduate programme and relate it directly to the absence of deterioration in vocal function during their teaching practices.

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Mathematics Teacher Training Programme's students' perceptions on their ICT skills: a case study

Mauricio Moya Marquéz¹

Abstract

The present study aims to reveal the «perceptions» of future teachers about their ICT competences for teaching and general use. The research was carried out with 11 students of the Mathematics Teacher Training Programme and 13 graduated students –who graduated in 2015- at University Católica Silva Henríquez (UCSH). This exploratory and descriptive research used a methodological approach, fundamentally qualitative and from an interpretative paradigm (González-Monteagudo, 2000, Domingo, 2010). This is an intrinsic case study, in which an initial questionnaire and subsequent interviews were used (Stake, 1998, Mc Millan and Schumacher, 2005, Rodríguez and Valdeoriola, 2009).

First, an analysis of the closed questions of the questionnaire was carried out by using tables and graphs of frequency; then a qualitative analysis based on the texts that emanated from the open questions of the questionnaire, and the answers provided during interviews.

According to the purpose of the study and its research question, the perceptions of the participants were characterised, which also revealed assessments about ICT tools for teaching and the notion of a «pedagogical model» and methodologies that support the teaching and learning using ICT.

The main results of the research showed that students are perceived to possess basic to average «Technical Aspect» mastery of general ICT skills, but some showed that their ICT skills are put into play when teaching, especially in areas related to the «Pedagogy», «School Management», and their capacity to integrate new technologies in the classroom. On the other hand, they are perceived to be less competent in the dimension of «Professional Development», which is related, for example, to innovation projects using ICT, publications, research groups, etc.

Objectives

General objective:

Unveil the perceptions of seniors and graduated students of the Mathematics Teacher Trainign Programme about their ICT skills, the fundamental tools for their teaching, and a model for ICT teaching.

Specific objectives:

1. Identify perceptions about ICT skills in general.
2. Recognise the perceptions about ICT skills for teaching.
3. Determine assessment related to ICT tools for teaching and teaching management.
4. Determine perception of teaching with digital technologies from a pedagogical model

¹ Lecturer, Mathematics School of Education, Universidad Católica Silva Henríquez. E-mail: mmoyam@ucsh.cl

and appropriate methodologies.

Assumptions of the study

In the framework of the standards for teacher education by Enlaces unesco (2008), and MINEDUC (2011), the following assumptions were established:

1. Students perceive themselves as competent in the dimension «Technical Aspects», because they have a basic knowledge of productivity tools and 2.0 web communication resources; they are able to use virtual environments for the development of more complex tasks, online collaboration with educational institutions, or in the proposal of research projects related to ICT («Professional Development»).
2. Students perceive themselves as having low or medium competence in the dimension related to «Pedagogical Area». They only know some ICT tools to teach mathematics and they feel insecure when incorporating ICT in their practices. On the other hand, they do not perceive ICT as part of a pedagogical model (Oteiza and Miranda, 2004, Siemens & Fonseca, 2004, Mishra & Koehler, 2006, Moreira, 2008, Quintana, 2013).
3. Students perceive themselves as competent or moderately competent in relation to the «School Management» dimension, because they incorporate ICT in their administrative and planning tasks.

Relevance of the study

Unesco (2005) proposes an approach that implies the promotion of ICT skills in schools. The discussion focuses on the importance of having digital skills for personal and social development. It is clearly a strategic factor that contributes to the growth with equity in neighbour countries (ECLAC, 2010). In response to this approach, governments, through their educational policies, have opted for innovation.

The first ICT census was carried out in 2012 and the obtained information revealed that, in our country, the gap between people who can access to technology and communications in education and those who cannot has been reduced (Enlaces, 2013). However, the availability of technology alone does not ensure that teachers are ready to use technological tools for teaching (Matus, 2013).

New generations of teachers are being trained in different educational institutions. They are interacting with technology and, of course, the hopes of many are put in them. Lei (2009) assures that students who are being trained to be teachers have a very positive view about technology, but they doubt their own ability to use it in their future lessons.

In the literature, ICT skills, or perceptions regarding the ICT skills of university students and future teachers, are lines of research. In the light of the studies that have been carried out, it is possible to conclude that the students' perceptions of their ICT competences vary, depending on the technological resources involved (Arras, Torres and García-Valcárcel, 2011; Ortiz, Peñaherrera and Ortega, 2012). In other cases, there is a high valuation regarding the use of ICT in educational processes, or changes in the role of the

teacher. Gutiérrez, Palacios and Torrego (2010) provide interesting information regarding educational models in the preparation of future teachers. National studies conducted at Universidad Católica Silva Henríquez (UCSH) with students who are being trained to become teachers provide relevant information on ICT use and their perceptions about technological practices, as explained by Bahamondes, Aguilar and Torrealba (2010) and Martínez (2015).

As part of the context, UCSH's School of Mathematics Education is carrying out a curricular redesign regarding the offered training programme, which also incorporates modifications involving innovation in the area of Educational Informatics. In the self-assessment report, one of the proposed points of improvement is related to the articulation between the disciplinary area and ICT use, which is connected with a need evidenced in 2015. Out of the 15 thesis projects presented by last year students, only two of them presented explicit connection with ICT. On the other hand, the students on placement generally use little technological tools. After considering these factors regarding the use of ICT for initial teacher training, the question guiding the present research is:

What are the perceptions of 2015's last year and graduated students of the Mathematics Teacher Training Programme about their ICT skills, fundamental tools for teaching, and pedagogical models for ICT teaching?

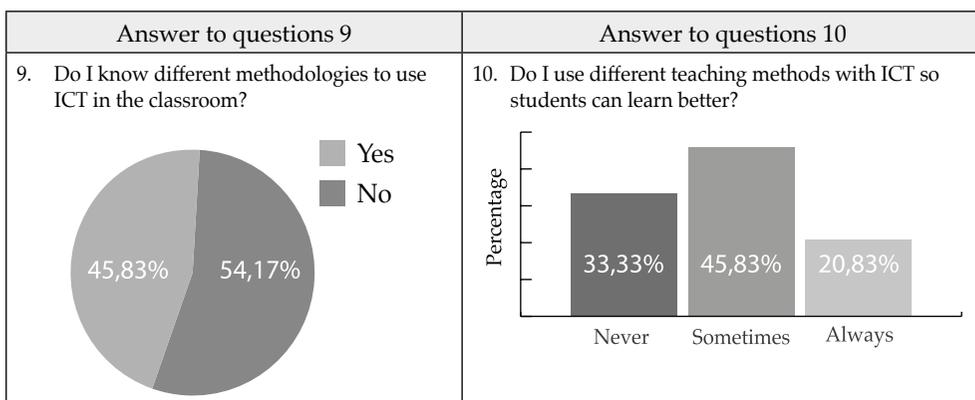
Analysis and research results

With regard to general technical competences, this item corresponded to Block 2A «Technical Aspects» of the questionnaire applied. In summary, it can be concluded that students of the programme perceive themselves to be generally proficient with respect to the technical aspects of computational knowledge and basic tools, such as word processors, electronic spreadsheets, or communication tools. However, the responses to the questionnaire showed that respondents perceive themselves as having low mastery of ICT tools for collaborative work, Moodle technology, as well as publishing, multimedia and RSS tools. In the case of specific tools or advanced (databases, high level mathematical software, programming, etc.), it is evident that there are students who know the tools, and others simply do not know how to use them. From this, the first assumption of the investigation is partially corroborated.

Regarding the qualitative analysis, the categories that contributed to the 2A Block are C1 (Formal Teaching), C3 (Autonomous Learning), C8 (Knowledge of educational tools). That is, the students recognize, on the one hand, a formal university education that has provided them with tools and software that allow them to develop professional and pedagogical practices; however, they point out that there are tools or applications that they have had to learn on their own. On the other hand, there are also tools that, when mentioned, they simply did not know them. For example, the questionnaire on the use of RSS readers or sites and repositories of specific digital resources.

In relation to previous studies, it is possible to establish some similarities. For example, students' perceptions of their ICT skills vary, depending on the resources involved (Arras, et al., 2011). In this case, future teachers are well trained in the use of basic technology, but not very familiar with more advanced Web 2.0 technologies (Law, 2009). The study of Prendes et al. (2010) is interesting, due to the fact that although the subjects are familiar a good part of the proposed tools, the main deficiencies are linked with abilities related to collaboration and group management. Regarding the study by Bahamondes et al. (2010) in the national context, subjects are perceived competent in basic productivity tools.

Regarding ICT skills for teaching and the notion of a pedagogical model or appropriate methodologies for the use of ICT in the classroom, Blocks 2B «Pedagogical Area» and 2C «School Management» were used. In summary, the analysis of the answers showed that respondents were aware of certain criteria when choosing and using ICT resources in the classroom. However, they are perceived with low knowledge about various methodological strategies with related to the use of ICT for teaching and learning. This correlates with a low implementation of these strategies in the classroom. On the other hand, a low use of ICT to evaluate is evidenced; That is, the conventional form still prevails. Finally, there scarce options to motivate students to use virtual spaces.



The results of the questionnaire also showed that the students express a low use of ICT resources for communication and social networks in teaching management, as well as in collaborative work and Moodle platforms. In addition to low motivation or experience in publishing educational content on the Web and use of free software or tools. Finally, the use of more advanced tools and applications - such as databases and high-end software- are more likely to fall outside the realm of schooling for teachers. Considering this information, it is evident that the results are somewhat lower in the use of ICT for «School Management», compared to what was proposed in the third scenario of this research. That is, they can be proficient users, but that does not mean that they use such technology to manage their time. Regarding the qualitative analysis, the categories that

contribute to this point are C2 (Absence of Pedagogical Model or methodologies for ICT in the classroom), C4 (Traditional Assessment), C5 (Absence of collaborative work culture).

S7e3l_109: I think it is a matter of teaching practises, because what we talk about, I mean, in order to integrate new teaching methods to a classroom, one needs to be in the classroom..., I mean, we have got to take this and put it into practise... along with students or colleagues... that is, we learnt how to use a certain software, yeah, we knew how it worked, but the thing is that it takes practise. What we do not see or learn is a demonstration in which people use the software to teach or with students... we just studied different education software.

S4e2l_553: I know Office, that software also works, Microsoft Word or I can also look up some information on the internet, but when it comes to actually using the software... to teach... I think that there is the problem.

S9e1l_25 ... Then of course, for example ..., I know how to use Geogebra, but what I do not know is how to use the software with my students. I know how to do some things, but I was never trained to do didactic things with it.

That is to say, the students openly recognise that they do not feel prepared to implement ICT in the classroom, since they do not have knowledge about ICT methodologies or about digital taxonomies that could guide them to develop those skills comfortably. For example, it would be interesting to know the TPACK model and its implications on pedagogical knowledge. The subjects recognise that they have received instruction on the use of digital tools or software, but they perceive that they was not complete regarding their use in pedagogical scenarios. For this reason, this field falls is related to personal investigation and the exploration of the resources in students' own classrooms.

Finally, going back to the idea of «pedagogical model for the use of ICT», the students failed to establish a strong relationship between their pedagogical and / or didactic practices, so that they could take advantage of the knowledge they already have about learning theories and update their knowledge. This is reinforced by the answers to the item 27 of the questionnaire, which reveals that a large majority (18 students, 75%) do not know a «pedagogical model» or theories that support ICT teaching, thus corroborating the second assumption of the investigation.

S22CML_23: ... at this moment, I am not familiar with any pedagogical model based on ICT.

On the other hand, it is recognised that ICT are not used to evaluate students in schools, since it is more common to use traditional methods. This relates, on the one hand, to the knowledge of the students about these tools, such as Moodle technology, or digital resources that are oriented or can be used to assess. On the other hand, it is perceived that there are more difficulties to implement these types of innovations. Sometimes schools have platforms to evaluate students online, but they are controlled by school staff, not teachers. Finally, although the subjects may have knowledge about

tools for collaborative work (Dropbox, Google Drive, etc.), it is openly acknowledged that there is not just a «culture» of collaborative work at schools.

In light of previous studies, it is possible to establish a certain correspondence with these findings. In general, future teachers «... have an acceptable level in basic digital skills, but they do not have an adequate level of their application, or of the necessary digital strategies for their own professional development» (Esteve, 2015, p.27).

Regarding the study carried out by Martínez (2015), it is interesting to note that future primary school teachers have a better perception regarding the knowledge and use of different methodological strategies regarding the use of ICT.

In relation to the evaluation of those tools for teaching and teaching management, the students are able to recognise and value a list of resources. Microsoft Word, Excel, Power Point and Geogebra lead the list. Other useful tools are: Graciadores, Prezi, Symbolab, Youtube, Google Drive, Dropbox, Cabri, Educa Plus, JClic, Exe-learning, Thatquiz, Moodle Platforms, among others. This is consistent with category C1 (Formal Teaching).

Regarding ICT skills in the area of professional development, the analysis of the responses of the questionnaire (Block 2D «Professional Development») showed that this point has been one of the lowest regarding motivation, knowledge and participation. For example, in innovation projects, training activities with ICT, publication of freely accessible contents, participation in forums and professional networks or research groups. Finally, there is little evidence of access to repositories of digital resources on the Web such as those already mentioned, thus corroborating the first assumption of the investigation.

The qualitative analysis corresponds to category C6 «Lack of motivation or capacity for research and / or reflexion,» which is linked to the perception of the students regarding the non-existent incentive from university to undergraduate research (Except thesis projects during the last year as one of the graduation requirements). Also, there is no capacity or personal interest to do so, since students usually have a series of academic duties and - in their own words - have little time for other instances, such as ICT projects, congresses, forums and so on.

With respect to planning ICT activities to support learning, the vast majority claim to have done so (96%), and it is relevant to know that, at least in their professional practices, this has been the case for most students and graduated students.

46% of the interviewees revealed that they do not know or know little about the «Social, ethical and legal aspects of ICT», while 54% know about it. Without a doubt, this knowledge must be part of the initial teacher training.

It is interesting to mention a comparison made in data analysis between the «technological tools mastery» and the «use for teaching management» area. It was revealed that, although the students know the tool, they do not necessarily use it for their work in their teaching practices. There is a «potential» use, which is not necessarily manifested.

Faced with the questionnaire question: how would you describe your mastery (none, basic, intermediate or advanced) regarding the use of ICT to integrate technology into your teaching tasks, both in the pedagogical area and in school management? The answers given are shown in the following table:

Mastery of ICT in Teaching practises

Category	Last year students	Graduated students	Total
Elementary	5	3	8 (33,3%)
Intermediate	6	8	14 (58,3%)
Advanced	0	2	2 (8,3%)
Total	11	13	24

As can be seen, most students perceive themselves as having «intermediate» mastery. However, as mentioned, the answers in the questionnaire reveal certain shortcomings, which are more specific in the qualitative analysis of the interviews. From these results, other categories arise, in particular, category C2 (Absence of Pedagogical Model or methodologies for ICT in the classroom), C3 (Autonomous Learning), C7 (More mathematics than educational ICT), C9 (non-relevance of the Framework of the Curriculum) and C10 (Variability of formal education received).

Synthesis of the findings. CONCLUSIONS

From the results of the research, it is revealed that last year and graduated students of the programme have achieved an acceptable general mastery of ICT skills, due to their formal studies at university. That is, they have a repertoire of knowledge and skills that allow them to function properly in «Technical Aspects». However, the differences between could be explained from the qualitative analysis and categories C1 (Formal Teaching), C3 (Autonomous Learning), C10 (Variability of formal education received), C11 (Personal motivation to use ICT), among others.

The same «technical» knowledge would allow them to possess a certain development in the dimension of «School Management»; however, in practice, this area reports some shortcomings, according to how things are being dealt with at schools. That is, our students can master the tools, but not necessarily put them into practice. For example, a low use ICT management tools regarding collaborative or informational aspects has already been reported. This general shortcoming in the use of tools in management can be attributed, in part, to «school culture», as revealed by the same subjects in the interviews, who argued that Web 2.0 tools do not have explicit or institutionalised functionality to improve processes.

A critical point is linked to the «Pedagogical Area» dimension, in which subjects openly revealed that they do not know methodologies or teaching models that allow them to better insert ICT in the classroom, in accordance with the teaching and learning

processes of the students. These shortcomings could be explained by taking a look at the results of the categories C1 (Formal Teaching), C2 (Absence of Pedagogical Model or methodologies for ICT in the classroom), C3 (Autonomous Learning), C4 (Traditional Assessment), C8 C10 (Variability of formal education received), C11 (Personal motivation to use ICT), among others. Particularly category C10 would explain that the group of subjects investigated learned about computer use with different teachers, who worked using certain tools with more or less emphasis on methodological practices.

Another critical area belongs to the «Professional Development» dimension. Students revealed that everything related to research, publications, collaborative networks, etc., is not their strong suit and what they know about that is due to personal motivation and specific opportunities given at university. In general, this situation could be explained through category C6 (lack of incentive for research and / or reflexion)

Finally, more than half of the students revealed that they know about «Social, Ethical and Legal Aspects», which was not taken into account, since the other dimensions were the focus of the study.

Some recommendations

It is advisable to update the curriculum of the use of ICT for education, addressing fundamental methodological aspects of the use of ICT and how they ought to be integrated into the classroom. Although the new proposal of ICT for education is going in the right direction in the redesign of the programme's curriculum, it is necessary to continue working and adjusting the objectives or competencies to achieve a more integrated work between the disciplinary, pedagogical and educational ICT areas. It is necessary to have appropriate methodologies that guide future teachers to properly use ICT to support the teaching and learning processes of students in the classroom.

It is relevant to discuss the approach of ICT courses in the programme. The focus should be on how ICT can be used for education, not on computer sciences, as pointed out by the interviewees. Failure arises when students how to use a specific tool, for example, Geogebra, but do not have a set of methodological possibilities to support teaching with this resource. And this considers both a general model of action with ICT and a specific way of using such tool with pedagogical purposes. It is essential to consider a systematic work of «microteaching» before future teachers come to the classroom to work with students. On the other hand, once on placement, future teachers should have instances of reflection on the pedagogical use of ICT.

The School of Mathematics Education has a valuable opportunity to implement significant changes that allow future generations to advance favourably in the perception and use of ICT and their contribution to teaching, which entails a strengthening of digital competencies for teaching, in the midst of contextualized training in a digital society.

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Implementation of Problem-Based Learning on Mathematics Didactics for pre-school students

Lynda Landaeta Pastene¹

Abstract

This learning strategy is carried out as a new experience that starts with the third year students belonging to Early Childhood School of Education, taking the «Mathematics Didactics for the development of Problem-solving skills» course, taught during the first semester of 2013. This learning was implemented after my participation in the «Teaching Methodologies for the Development of Strategies on Problem-based learning» training workshop, conducted by Dr. Patricia Morales Bueno, Pontificia Universidad Católica del Perú at Universidad Católica Silva Henríquez (UCSH).

In 2015, after participating in the Diploma Course related to Innovation in University Teaching, new contributions were incorporated into our initial strategy, for example, to maintain balance between knowledge and the acquisition of new skills in students. Innovation has been represented in students designing, implementing and assessing mathematical learning for children who are 4 to 6 years old and attend kindergartner or school.

Objectives

It is expected that the teams, after knowing the diagnostic evaluation in the area of mathematics, will be able to:

- To design didactic strategies that collaborate in the construction of learning of initial mathematical education in agreement with the theoretical frameworks that apply to Early Childhood Education.
- To apply learning experiences of initial mathematical learning with children in real contexts, which implies intentional design, assessment and re-assessment processes.

Description of the experience

Problem-Based Learning - henceforth PBL- «is established as a method of learning based on the principle of using problems as a starting point for the acquisition and integration of new knowledge» (H.S. Barrows 1982).

The PBL strategy works in small groups of students and, through the facilitation of the teacher, they analyse and solve selected or specially designed problems for the achievement of certain learning outcomes.

PBL is student-centered, promoting learning as a meaningful resource, as well as developing a series of essential skills and competencies which will be useful in their future.

¹ Lecturer, Early Childhood School of Education, Universidad Católica Silva Henríquez. E-mail: llandaeta@ucsh.cl

The following describes the implementation of this methodology in 2013 on the aforementioned course, which is always taught during the first semester of each year.

Firstly, students are invited to learn about PBL, then the teacher's expectations for the process are given, so as to clearly define the role (as students) that they should carry out and the role the lecturer would assume; this process ends with figuring out the importance of team work.

1. It is a complex process, associated with a real situation.
2. It is defiant, allowing the development of the learning process.
3. It Integrates and connects information that is part of specific learning outcomes.

Then, the tasks for group were:

1. Get together in groups and assign tasks to every member.
2. Search for information that allows students to investigate, organise and process necessary facts to solve the problem.
3. Communicate and listen to others; Apply knowledge to a real situation.

This allowed the students to be the protagonists and active participants of their own learning, gradually making of this procedure a «lifelong learning» strategy.

In the next stage – work preparation- the students had to present their progress each lesson in order to approach the theoretical solution of the problem, which should end not only with a theoretical proposal, but also with the implementation of this strategy at the school presented in the problem.

The stages consisted in:

- Presenting the theoretical findings that support what they found, after familiarising themselves with the diagnostic assessment. Students will discuss what topics or contents should be addressed in the proposal.
- Presenting an initial theoretical proposal in front of the course, according to the topic the group agreed on, which will be implemented, later on, with students at Escuela República de Uruguay.
- Discussing each comment or contribution to the initial proposal. Finally, the lecturer will support and help students find possible solutions to the content they wish to address.
- The following classes will be used to determine the final proposal, which will be conducted at Escuela República de Uruguay.
- The next stage consisted in preparing the resources involved in the proposal; for this, the same procedure was followed, that is to say, students needed to show their material so necessary changes could have been made.

The last stage, called «solution of the problem», was related to the implementation of the proposal created in the classroom, based on the knowledge of they had on kindergartner students. This activity has been done for three years now at the library of the school. It was necessary to prepare the physical space to define the different stations

through which the children would pass; each station would work on different topics, categorised in accordance with the students' needs analysis. The topics –or stages– were five: Selection and classification, Counting, Graphs, numbers at concept level and numbers at connective level. This proposal has not varied much during the years, given the cognitive development of 5-6 year old children.

Establishing stations accounted for a double objective: on the one hand, each «specialist» team in the subject could be differentiated from other teams; On the other hand, it facilitated the mastery and accessibility of children to the resources.

The experience concluded with a group reflection on the experience, where the school teacher participates actively. Each student takes control of their role, facilitating metacognition in the group of children, through questions that can reconstruct what they experienced in the different sections.

The experience finishes in classroom. Here, assessment of the experience is carried out by the students, who analyses the lesson made by the teacher and reflect on possible mistakes. Subsequently, the experience is evaluated with a 30% performance rubric and a 5% self-assessment method.

Main findings

The students who participated in this experience said the following:

It has been an innovative experience, which challenged us to work as a team ... and that has left meaningful learning in an area that, personally, is complex. (Athens, K. 2013) ... Personally, this strategy helped me to understand, analyse and get actively involved in the problem presented by the teacher.

Uff, not only did we have to understand the challenge we were facing, but we also had to go look for basic mathematical knowledge. (Fuentes, N. 2013)

I want to highlight that this experience that allows us to approach reality and be able to work with it, not from a theoretical point of view but from a practical one, with situations that differ greatly from what can be observed in lessons (Cachorro, A. 2013).

After three years of implementing this activity, I can attest that this is a strategy that allows students to:

- Develop critical thinking and the ability to analyse and solve complex real-world problems.
- Acquire basic knowledge and specialised content in an appropriate context.
- Develop a sense of individual and collective responsibility, and
- Develop virtues and attitudes that can be used for teamwork, as well as interpersonal skills.

However, it is necessary to go even further to continue developing such active methodologies, such as: determining the weight of the assessment, protocols for assessment, students' attitude towards the activity (they only care about a mark) and incongruences that may exist when we talk about innovation and what we actually do regarding innovation.

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Teaching innovation: a contribution to UCSH's Special Educational Needs Teacher Training Programme's Students' Learning

Ethel Trengove Thiele¹

Abstract

During the first half of 2016, I put into practice two innovative teaching methods. On the one hand, we have got Service Learning as a work strategy; and on the other hand, Information and Communications Technology (ICT) as a means of recording students' training process.

These experiences of educational innovation were aimed at improving the quality of fourth year students' learning. These students have taken the course called «Pedagogical Proposal for Handicapped People», offered by the Special Educational Needs Teacher Training Programme with a minor in Cognitive Disability and Severe Development Disorders at Universidad Católica Silva Henríquez.

This active methodology and the incorporation of ICT are directly related to betterment of the quality of teaching that, as an institution, UCSH promotes, both in its central guidelines and in the processes of curricular redesign. This is directly related to the processes of teacher innovation, as it is fundamental for teacher to be able to adapt to the demands of the digital age and globalisation, making it possible for Initial Teacher Training to incorporate transversal competences, which will contribute to society's use of ICT, as stated: «Technological-educational innovation in this formation process means providing new meaning to everyday pedagogical interaction» (Fainholc 2008, p. 53).

Objectives

To promote the development of meaningful learning in fourth-year students enrolled on the Special Educational Needs Teacher Training Programme with a minor in Cognitive Disability and Severe Development Disorders, through active methodologies that allow to link different aspects of the discipline with professional training.

Description of the experience

The main focus of the process was placed on the participation of 26 students, who were taking the aforementioned course, in our community partner school called Escuela Especial Los Cerdos del Líbano, which houses a population of approximately 170 students with SEN. The activities was took place in 12 courses, composed of groups of 8 to 15 students with different disabilities. Teachers were also direct beneficiaries, who witnessed the strategies implemented by UCSH students, in their participation in school contexts.

The students were organized in pairs and during six weeks, four hours each week,

¹ Lecturer, Special Educational Needs School of Education, Universidad Católica Silva Henríquez. E-mail: etrengovet@ucsh.cl

they actively participated in the different courses, creating case studies from the needs analysis that was carried out, so to be able to put Service Learning into practise. In turn, the pairs of students, under the indications and orientations of the lecturer, created a blog, which was used as a means to keep records of the training process, both in theoretical and experiential aspects.

Work was planned by sessions; the first two were dedicated to gathering information, observation and familiarisation with the assigned course. At this stage, the necessity to assess people with Multiple Special Educational Needs was key, because each student presented different pathologies, which is why every individual was considered a case study; In addition, our students were requested to do class modelling, using Universal Design for Learning (UDL).

The two following sessions were designed to work in direct collaboration with the teachers of each course and, in turn, in the application of the assessment and guidelines selected according to the requirements of each case study.

During the two sessions, UDL methodology was implemented, which involved the planning and elaboration of resources and support materials in response to the students' requirements, contributing to the school via class modelling.

Fundamentals

Clearly, university teaching is focused on generating relevant learning processes while students are being trained, but it is also important to take into account re-assessment in relation to their own competencies and practices. Therefore, incorporating Service Learning allows students to focus on the delivery of what they have learned to a community that requires and values it.

On the other hand, any innovative experience lived by the students in their training should be recorded in some way, so that it allows them to review such process, so to verify students' personal and universal development and growth. That is why I opted for the creation of blogs, since it was possible to visualise actions and acquired learning, and in turn, have updated inputs for a permanent reflection with the aim of improving the quality of learning.

This choice is based on national and international standards: «ICT has been naturally incorporated into university teaching, abiding by different motivations of some academics» (Benvenuto, 2003, p.109). Lecturers, regardless of the modality (morning or evening) and university in which they work, should incorporate technology in accordance with societal demands.

These two innovation experiences were carried out simultaneously, which meant that students were able to register formative instances through different posts in their blogs; upload reports and photo records; provide links of interest to readers, etc. Students tried to «simultaneously support two intentions: the pedagogical intention to improve

the quality of learning, and the joint intention of offering a response to a social need» (Cecchi, 2006, p.4).

In summary, the process of this course was registered and made visible by integrating empirical experience with the formal knowledge, which was recorded on the blog. These students considered that «integration implies a transparent use of ICT, that is, a natural part of teaching, transcending instrumental use; The appropriation of ICT means that the teacher encourages students to interact with technology using knowledge, allowing the development of mental structures in students» (Flores & Rojas, 2013, page 48).

Main findings

It is relevant to incorporate methodological strategies, such as Service Learning, because the protagonist is the student and the community. This is a significant contribution to teacher training, since it allows «strengthening the quality of education, because solving concrete problems allows us to do more than just lecturing, and because in this process, we acquire skills and abilities which cannot be found in books «(Tapia et al., 2013, p.11).

Taking what was said above into account, academics must provide spaces and challenges for university students to generate, based on the experiences lived in different communities, reflection. By doing so, they will be able to contribute to a paradigmatic change in several areas, since learning is constructed, teaching is interrelated with communities and education will move towards common well-being; because «doing things for a community takes on a real meaning when all the people involved have participated in the different phases of its development» (Mendia, 2012, p.75).

The evaluation of this experience arises from different perspectives: from the students involved, from the teacher and, of course, from the community partner, who, according to conversations, values the experience, as reflected in the words of Headmaster, Ms Claudia Almarza: «In general, the students who come from the University demonstrate good specialisation, commitment and responsibility. This makes me assume that they will be good professionals. Congratulations».

On the other hand, it is also relevant to incorporate some testimonies and/or reflections of the students who participated in the activity, so to visualise how this has made an impact in their personal and professional self, since all experience affect each person differently. We ended up with a lot of emotions, as we went through a process that was repeated in different phases, it is worth noting that this service had a highly significant importance for us.

The main benefits of carrying out this type of tasks based on Service Learning are the educational practices we acquire as future educators, which can be positive or negative, but it cannot be denied that both provide us with an apprenticeship that serves us as input for future practises.

What was experienced in the classrooms was wonderful, since the affection received by

children was gratifying, especially when introducing new activities and knowledge. The classroom is magical and full of expectations and knowledge, both for the students and for teachers.

As the lecturer responsible for this course, I am pleased to endorse this experience and corroborate that the incorporation of ICT facilitates closeness and borderless access to students. The Service Learning methodology, on the other hand, generates positive impressions of all the actors, because the contributions of each member are valued. Therefore, I consider this teaching innovation as a great tool in the training of students and in the redesign of my own teaching.

CONCLUSIONS

A Service Learning experience would not make sense if the centre of such activity were not the students and the community partner, because mutual benefit is key, which both actors achieve, through the re-examination of the different actions that were undertaken, understood and experienced during the activity. In turn, the Service Learning allows the increase of learning, since our students are challenged, which makes them grow in different aspects of their lives.

This action enriches the students and the community, as it is possible to deepen an educational problem, analyse it, and look for solutions based on the tools and disciplinary knowledge of the actors. We also need to consider that there are implementation processes that (Needs analysis, planning, organization, execution, evaluation) transform and improve a community.

The above can only be done successfully when teachers understand that innovation should not only be based on the incorporation of active strategies or methodologies, but also on seeking the use of common language that facilitates and motivates students, for instance, the creation and use of blogs. This shows how students select, from their experiences, the most important elements and make them known to a virtual community. Therefore, the usefulness of this project transcends the school at which our students were working, it can also be known and valued by other communities, crossing time and geographical barriers in different educational and life communities.

Finally, the training of these future teachers has been paved with great experiences that allow them to integrate theory and practice, transform their legacy into service to a given community and make it visible using ICT. The relevance of this experience then lies in its social, personal, and educational value. «There is a socially recognised belief in the need to use ICT to support teaching-learning processes, which requires lecturers to take charge of the subject, as these scenarios represent new challenges that education must address, and for which trainees should be prepared. The inclusion of ICT in educational contexts can bring benefits to the education system as a whole: students, teachers and the educational community at large «(MINEDUC, 2006, p.9).

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Linguistics and flipped classroom: implementation of a didactic experience for Spanish Language Teacher Training Programme's students

Gabriel Valdés León¹

Abstract

This experience of educational innovation arose from an activity conducted in the Diploma Course in Innovative Teaching that took place at UCSH 2016. Several topics were included; however, this study considered the implementation of a trendy methodology: flipped classroom and, consequently, the incorporation of ICT by means of a Moodle Platform.

The activity consists in the planning of the course Text Typologies and Discourse, which is of a theoretical nature from the perspective of active learning methodologies. In this sense, students used the face-to-face instances to mobilise knowledge, skills and attitudes with the aim of designing a didactic sequence, which allowed them not only to incorporate the contents of the course, but also to contextualise them as tools to develop writing abilities, which will be useful in their future roles as educators.

This experience is directly related to the curriculum redesign process that our university is currently experiencing, and it allows re-assessing the new approach that teaching practises acquire within a competency-based education and, therefore, centred on the student.

Objectives

- To promote learning in Spanish Language Teacher Trainees through active methodologies, such as connecting linguistic concepts to their future as teachers.
- Raise students' awareness of the advantages and challenges of teamwork in order to achieve objectives.

Description of the experience

Undoubtedly, one of the most important tasks that teachers perform is connected to the planning of their courses and classroom practices. This inherently challenging activity becomes even more challenging when teachers design student-centred or competency-based courses, adopting active learning practices and incorporating ICT in the classroom.

Understanding education from a competency-based perspective involves not only incorporating changes at curriculum design level, but also adopting a new way of understanding educational processes.

The first challenge is faced by university lecturers, who need to deal with a complex picture: the need to radically change the way the teach due to

¹ Lecturer, Spanish Language School of Education, Universidad Católica Silva Henríquez. E-mail: gvaldesl@ucsh.cl

current trends in education, to have everything under control, and to build a challenging and interesting environment. (Brazil, 2016)

Based on this, the process of curriculum redesign that is being carried out at UCSH has taken into consideration the need to strengthen teaching practices to confront new competency-based. In this context, the teaching innovation arises precisely from some of the main pedagogical guidelines addressed by the aforementioned Diploma Course.

In general terms, the course on which innovation was presented was designed and conducted from the perspective of a flipped classroom. In essence, there have been teaching practices that could perfectly fit what we now understand as flipped classroom. However, this concept takes on greater value in the context of an education centred no longer on teaching, but on learning and, above all, supported by ICT (Esquivel, Esquivel, & Martínez-Castilo, 2014).

Flipped classroom, as we understand it today from the proposal of Bergmann, J. and Sams, A. (2012), implies that the teacher happens to be a facilitator in the process of acquisition of competences, because the class becomes a space for dialogue, interaction, assessment and application of content that the student, in an active and autonomous way, has been able to review before getting to class.

In this line, the course Text Typologies and Discourse, belonging to the area of Linguistics of the Spanish Language Teacher Training Programme, has been planned completely from the guidelines proposed by flipped classroom; However, the focus of this document is to explain the planning of the first unit.

The contents that the curriculum states for the first unit of the course are four: concept of communication, linguistic sign, communication factors and functions of language. With regard to the psychosocial characteristics of students, it should be pointed out that, because it is an optional course, the group presents different kinds of students: from first-year students to those who are on placement. Therefore, the first question arises: how can contents be approached on a course where more than half of the students already know the material and, in some cases, the content is present on their placement? How can they be motivated?

Students were faced with the task of designing to Didactic Sequence (SD) for their future high school students, with the aim of approaching a discursive genre (the letter, for example) and guide, step by step, the process of written production. Teams were self-sufficient, however, they needed to make sure that there was at least one student that represented different training regarding year, that is to say, each group needed to have first, second, third, fourth, and fifth year students. The tasks that each team had to develop were:

- Session 1: Create a Gantt Chart.
- Sessions 2 and 3: Define the discursive genre based on the proposal of three authors, emphasising the functions of language.

- Sessions 4 and 5: class-by-class lesson planning.
- Session 6: Develop material to assess and provide feedback in the writing process.
- Session 7: Present your work to your peers. Synthesis of contents and feedback.

Obviously, each of the contents of the unit conveys the necessary knowledge that must be mobilised by the students to achieve the desired product, in this case the didactic sequence. In addition, the activity allows future teachers to place themselves in their future role, design learning instances related to written production and apply contents of the language area within the framework of language teaching.

Non face-to-face work is considered to be necessary to define discursive genres, to research the didactics of written production, and to evaluate the most effective evaluation and feedback strategies for the selected level. In this sense, the Moodle platform became the ideal space to share articles, videos, exchange opinions in forums, systematise work progress (corresponding to a mark, weighted at 20%) and, of course, share the final product.

Main findings

The presented experience shows an application of some of the aspects addressed during the aforementioned diploma course: flipped learning, which is based on problem-solving strategies and use of ICT, mainly. The results of a work like this, with a very limited scope, allow us to reflect on the advantages that education focused on students offers us, from motivation to the development of skills and attitudes.

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Hands-on research: a case on an Educational Research course

Marisol Álvarez Cisternas¹

Co-Author: María Rosa Oyarce Quiroz²

Abstract

The present study aims to share the results of the use of an active methodology with students on an undergraduate course in Educational Research. The students progressed in a constructive way, actively participating in workshops and the development of a small research task in which they were the subjects investigated. The permanent concern was how to teach research in a comprehensive way that would be meaningful for students, given the fact that we use terms, such as paradigms, variables, hypotheses, ethnography, collective, among others, which can have multiple meanings for students. The decision was that students needed to learn about research by conducting research, thus becoming the subjects of investigation. A set of workshops was developed and a research proposal was modelled, considering each one of its phases. Subsequently, according to the variables studied, their learning styles were determined, administering the Honey Alonso Questionnaire of Learning Styles (HAQLS). Data was tabulated and analysed individually, and as a group, thus determining the correlation between students' learning styles and their academic performance. Gathered data revealed the value students gave to working in an active manner, something that seemed unattainable for many of them.

Objectives

General objective:

To unveil students' opinion regarding teaching-learning strategies and the learning achieved in the course Educational Research.

Specific objectives:

- To describe students' opinions regarding teaching-learning strategies used in the course Educational Research.
- To discover if participatory methodologies facilitate the achievement of learning outcomes for the Educational Research course.

Project description

Active Methodology

Since students must develop competences that not only correspond to knowledge, but also to areas such as knowing how to do things, teamwork and creativity, teachers have fostered new educational strategies to promote a change in the role of students regarding the teaching-learning process (López, 2007).

¹ Dean Faculty of Education, Universidad Católica Silva Henríquez. E-mail: malvarez@ucsh.cl

² Lecturer, Faculty of Education, Universidad Católica Silva Henríquez. E-mail: moyarceq@ucsh.cl

Table N ° 1:

Teacher		Student	
Traditional approach	Active learning approach	Traditional approach	Active learning approach
<ul style="list-style-type: none"> • Owner • Lecturer • Judge 	<ul style="list-style-type: none"> • Participant • Planner • Facilitator 	<ul style="list-style-type: none"> • Dependent • Receptive • Passive • Individual 	<ul style="list-style-type: none"> • Active • Group work • Involved in the process

Active and participatory methodology is a form of work in which the active participation of all the people involved in the process of construction and reconstruction of knowledge is sought; Promotes learning and encourages greater involvement between the participants and the subject being studied. It also proposes a more equitable and horizontal relationship, granting each participant the right to express opinions, question, contribute and dissent during the teaching-learning process, in a creative and respectful environment (Fallas and Valverde, 2000, in Artavia Gutiérrez, 2012).

In the same way, it conceives the participants as protagonists and recognises their skills, potentialities and capacities for the transformation of societies through the processes of knowledge construction.

This process responds to three methodological moments (phases):

1. Awareness: the content of the course is mediated by the news, through participatory techniques, visual and re-assessment, among others, that allow the participants to externalise opinions, experiences and emotions in relation to the theme. The workshops that were part of the activity were strongly based on this phase.
2. Theoretical reflexive approach: theoretical references are provided, which support or reinforce what the group contributed. In this phase, workshops were analysed paying closer attention to theory.
3. Back to practice: concrete proposals are made by the participating students, which, applied in particular contexts, allow the achievement of the objectives of the training process (Artavia Gutiérrez, 2012). In this phase, progress was made through the design of a small research project, in which they were the subjects investigated.

The facilitator can provide feedback to the group. Usually, a single technique is not enough to work on a topic; (Alforja, 1988, quoted in Artavia Gutiérrez, 2012).

Participants

Students who enrolled on the Educational Research course. They belonged to the teacher training programmes on arts, Spanish language, history and geography, mathematics and physical education.

A total of 38 students participated, who answered questions on a perception questionnaire applied at the end of the semester.

Instrument

The lecturer responsible for the course applied a questionnaire with two open questions to know if, from the contents the students have studied, there were changes in students' learning to carry out research in their respective pedagogical disciplines, these being transmitted through workshops, presentations, group work and the design of a small research project in which they were the subjects investigated.

The questions were:

- Do you think you have more knowledge about Educational Research now than at the beginning of the second term? Elaborate.
- What were the main factors -if any- that allowed you to understand Educational Research?

Main findings and conclusions

From the written answers of the students, a comparison analysis was carried out - comparing and contrasting each theme and category to determine the distinctive characteristics of each one (Glaser and Strauss, 1967; Mc Millan and Schumacher, 2007).

Table N ° 2: Dimensions, categories and subcategories.

(An approach to the topic of the day from everyday issues, through participator, visual and reflective techniques)

Dimensions	Categories	Subcategories	Perceptions
Sensitization	Teaching-learning process	Previous knowledge	<p>E5: ... before taking this course, I had some knowledge, but during the course I learned a lot because of the methodology used.</p> <p>E6: ... that, comparing the research I have done in previous years, I can now say that they are on their way to real research, since I have been applying the knowledge of the course in my works. There is definitely progress and it works</p> <p>E8: ... I find that I have more knowledge, because when I read a thesis I can identify certain points and a greater development and explanation of the style of a thesis.</p>
		Methodology	<p>E1: ... at first I was not interested in the course and, thanks to the methodology and activities carried out by the teacher, I had interest and enthusiasm in learning.</p> <p>E7: ... the interaction of the teacher is fundamental, since it made me interested in the contents.</p>

		<p>Learning Conceptual</p>	<p><i>E18: ... the repeated practical works in which concepts are reinforced and applied so that greater learning is achieved.</i></p> <p><i>E24: ... the achievements and progress are due to the methodology used by the teacher, and the constant workshops and activities in classes. In addition to bibliographical support.</i></p> <p><i>E26: ... that the methodology used by the teacher allowed us to ask questions at the right time, facilitating the acquisition of learning and achieving objectives.</i></p> <p><i>E36: ... I have acquired new knowledge about research.</i></p> <p><i>E38: ... because the methodology of work helped me to realise things I had no idea of.</i></p>
<p>Furthermore, The lecturer was interested in the progress of students during workshops, which encourages a systematic and effective work.</p>	<p>Theoretical reflexive approach</p>	<p>(An approach to the topic of the day from everyday issues, through visual, participatory and reflective techniques by the group).</p>	<p><i>E10: ... because I know concepts and I can analyse research by understanding.</i></p> <p><i>E11: ... I had some idea about what research was, because of other things I studied. But that knowledge has deepened now, from the point of view of education.</i></p> <p><i>E13: ... since we have studied and read a lot, read books that give you the tools of how to follow types, methods, etc. step by step</i></p> <p><i>E14: ... due to the contents delivered by the teacher.</i></p> <p><i>E28: ... we have deepened class to class contents that bring us closer and give us knowledge about educational research.</i></p> <p><i>E18: ... the classes and the presentations done by the lecturer and classmates.</i></p> <p><i>E23: Although my marks do not reflect what I learned during the semester, as I said earlier the way the work facilitated the acquisition of this new knowledge, was superb. In addition to autonomous study.</i></p>

		Procedural	<p><i>E11: I think it was a big help, because the more exercises I did, the easier it was for me to identify the different areas.</i></p> <p><i>E14: ... and the constant exercises with different types of research, both quantitative and qualitative.</i></p> <p><i>E22: ... because I learned or -I tried to- the practical part of research, especially the possibility of carrying out my own research.</i></p> <p><i>E23: ... knowledge about educational research has increased, which contributed to the activities or workshops that were carried out in the course.</i></p> <p><i>E24: ... this course addressed the issue of educational research in good didactic way, which was easy to understand and acquire the contents.</i></p>
Back to practice: (Concrete proposals are made by the participating students, which, are applied in particular contexts)	Design of research projects.		<p><i>E7: ... With this knowledge I can choose what kind of thesis I will do, and on what aspects I should focus.</i></p> <p><i>E12: ... I realized that this will serve my future as a researcher.</i></p> <p><i>E25: ... so all the knowledge acquired in this course has helped me to set specific objectives for my future thesis work and future research.</i></p> <p><i>E26: ... I believe I have a solid and grounded foundation for basic research projects in my field.</i></p> <p><i>E29: ... I learned new contents that will contribute to the elaboration of a thesis.</i></p> <p><i>E33: For this reason, this subject will allow me to achieve a good future research project.</i></p> <p><i>E37: ... I have acquired knowledge of all kinds to start my thesis project next year.</i></p>

Discussion and Conclusions

Students indicated that the active-participatory methodology used by the lecturer, through applied workshops, exhibitions, group work and the design of a small research project, provided them with motivation to carry out research in educational contexts.

From the students' point of view, it is possible to point out:

- Promoting quality and meaningful learning is possible if students are active subjects of their own knowledge construction.
- Promoting collective learning is possible if the students are the subjects investigated.
- Encouraging critical analysis from students is possible.

- Motivating students is possible when showing trust and attention.

E1: ... because at the beginning of the semester I had no idea about anything related to the course. I had no interest in the course, so my knowledge was non-existent. Instead I can now recognise types of research, I may be able to conduct research, recognising its steps and elements.

E7: Yes, since I now have knowledge of the various types of research, besides I know the scope, its type, and the identification of an Action research, etc. With this knowledge, I can choose what kind of thesis I will carry out, and on what aspects I should focus.

E9: Achievements have several phases. On the one hand, there is my interest as a student, reading what was requested and investigating, attending classes to better understand the subject and solving doubts. Designing an investigation with this methodology helped me to understand the concepts of problem, questions, variables, and hypotheses.

E22: Yes, because I learned-or tried to-the practical part of research and complemented it with what I learned last semester.

E23: My knowledge about educational research has been increasing. What has contributed to this knowledge has been the activities or workshops that have been implemented in the course. This is evidenced when analysing situations or seminars, since it is easy for me to identify or assimilate concepts or identify approaches.

E24: I consider that this course addressed the topic of educational research in a methodological way, which was easy to understand and acquire the contents. With the work of workshops and support of the Sampieri's book I think the course taught me a lot and I gained a lot of knowledge that I did not have at the beginning of the semester.

E25: Yes. In fact, I had never before seen topics related to this field, so all the knowledge acquired in this course has helped me to set specific objectives for my future thesis work and future research.

E32: Yes, because lessons have become interesting. In addition, my previous knowledge of the subject was scarce, rather null.

E33: Yes, because this course helped me understand topics about theoretical framework, types of research with their respective variables. Finally, I consider that at the end of this semester I am able to design a research project.

E36: Throughout the semester I have acquired new knowledge about research, since literature review with class exercises and presentation has been good. Thus, the main difference between quantitative and qualitative research has been clarified.

E31: Mainly to the exercises done in classes, since we were able to solve doubt, as opposed to just sitting on a chair listening to the lecturer speak.

E38: The way we worked in lessons, the constant team work in workshops and presentations, which helped me to understand and rationalise the concepts that are used in educational research.

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