



ARTICLES

The impact of an intergenerational choral singing experience as a channeling vehicle for emotions, values, motivations, and learning

El impacto de una experiencia de canto coral intergeneracional como vehículo canalizador de emociones, valores, motivaciones y aprendizajes

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Abstract

This research designs, applies and evaluates a Service-Learning (SL) project of intergenerational choral singing (students of Secondary Education and seniors of a nursing home in a first proposal) to study its effect on issues of learning and quality of life. The qualitative methodology through action research proposes this study through the replication of the initial project in four centers for two consecutive years. After the processing of data and the analysis of results, recurrent themes arise in all the participants. The relevance of choral singing in Secondary Education as a key element for the emotional and personal development of adolescents, the educational practice of the SL as a facilitator of this activity, the enrichment of the intergenerational relationship and the personal, professional and social benefits provided by the project are evident.

Key words: Choral singing; Service-Learning; Secondary Education; Didactics of Music.

Resumen

Esta investigación diseña, aplica y evalúa un proyecto de Aprendizaje Servicio (ApS) de canto coral intergeneracional (alumnado de Educación Secundaria y mayores de una residencia de tercera edad en una primera propuesta) para estudiar su efecto en cuestiones de aprendizaje y calidad de vida. La metodología cualitativa, mediante la investigación-acción, plantea dicho estudio a través de la réplica del proyecto inicial en cuatro centros durante dos años consecutivos. Tras el tratamiento de datos y el análisis de resultados, afloran temas recurrentes en todas las personas que participaron. Se evidencia la pertinencia del canto coral en la Educación Secundaria como elemento clave para el desarrollo emocional y personal del alumnado adolescente, la práctica educativa del ApS como facilitadora de esta actividad, el enriquecimiento que supone la relación intergeneracional y los beneficios personales, profesionales y sociales que aporta el proyecto.

Palabras clave: Canto coral; Aprendizaje-Servicio; Educación Secundaria; Didáctica de la Música.

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1. Justification and research objectives

This article aims to study the effects of intergenerational choral singing on learning and quality of life. This intergenerational Service-Learning (SL) music research was carried out during the academic years 2015-2019. Its implementation involved the design of a pilot project and four subsequent replications. In the initial project, the service was carried out by students in the 4th year of Compulsory Secondary Education (ESO) at a Secondary School and its beneficiaries were a group of elderly people from a nursing home. In total, five experiences were carried out involving the same number of Secondary School music teachers and approximately 200 participants: 95 students and around 105 elderly adults.

The justification for this study was determined by three reasons: firstly, from the theoretical framework and from the research teaching experience, it became evident that choral singing, although it is part of the competences and knowledge of the curriculum, is not applied as it should be, probably because of the difficulties involved; Secondly, from the review of intergenerational service-learning projects, the potential of senior citizens' centres as a conduit for learning and, at the same time, as an area of action sensitive to the benefits of music was documented; therefore, thirdly, an attempt was made to contribute, from intergenerational choral practice, to the pedagogical and teaching knowledge of vocal performance in Secondary Education.

By approaching the research through a Service-Learning project, the objectives were oriented in two directions:

1. With regard to the pupils, they were specified as:
 - 1.1. To study the educational effect of intergenerational choral singing on pupils in secondary education.
 - 1.2. To investigate the keys to the motivation and the benefits it brings to pupils.
 - 1.3. To increase and improve its practice.
 - 1.4. To provoke the development of autonomous, reflective and planning attitudes, aimed at making responsible decisions in interaction with the social reality.
2. And with respect to users:
 - 2.1. To study the effect of intergenerational choral singing on the quality of life of older adults and on the socio-emotional area of all the people involved.
 - 2.2. To check if it produces effects on the cognitive and physical areas of older adults.
 - 2.3. To study its impact as a method in favour of education in values.
 - 2.4. To check if emotional management can contribute to improve learning.

2. Theoretical framework: the two pillars of research

The fields of knowledge that define this research are specified in two conceptual pillars that support the study: the pedagogical (based on SL) and the musical (based on choral singing). Following a review of the academic literature, Service Learning, choral singing and existing reference experiences are defined.

2.1. Service Learning

Of all the definitions of Service Learning (SL) reviewed, the one drawn up by the Promoter Centre SL was taken as a reference point, which reads as follows:

Service learning is an educational proposal that combines learning and community service processes in a single, well-articulated project in which participants are trained by working on real needs in the environment with the aim of improving it (Puig, Batlle, Bosch and Palos, 2006, p.22).

This definition invites and contributes to endowing many pedagogical activities that can be developed in educational centres with a social perspective, promoting human, social (Campo, 2015; Graell, 2015) and philosophical-political perspectives (Martínez, & Puig, 2011).

In the implementation of SL projects, interconnected elements come into play that contribute to making them more dynamic: learning, service, sense of service, needs, participation, group work, reflection, partnership, evaluation and consolidation of the project (Puig, 2015). These dynamics allow projects to be developed more rigorously and thoroughly, as they are key points for their identification and optimal development.

After defining the perspectives and dynamisms that make up SL it is necessary to define what it mobilises. From the theory of the gift (Mauss, 2009), processes are determined that have an impact on the ways of doing and perceiving reality. Authors such as Martín, Gijón and Puig (2019) define it as the process of giving, receiving, giving back, in which "the gift acts as a symbolic operator that creates social ties between subjects, restores and strengthens their relationships, creates community and shapes the personality of its members" (Martín *et al.*, 2019, p.56).

2.2. Choral singing

On the other hand, choral singing was reviewed as a multidisciplinary and intergenerational activity. In this case, the starting point was a historical and territorial contextualisation in which it was found that the USA continues to give more importance to the final result than to the processes followed to achieve this musical learning (Arasi, 2006).

In Spain, the situation was no different; however, there was evidence of a boom in the youth choral movement in recent decades and, in the Valencian Community, a transformation towards a more inclusive and decentralised model (Galbis, 2002). However, all of this is outside the sphere of formal education, since in formal education, we are astonished to find that Secondary School pupils do not sing or sing very little in the classroom, according to the studies consulted (Camara, 2003; Elorriaga, 2010). This last fact is difficult to understand if we take into account the intrinsic benefits of choral vocal practice and the socio-cultural context in which the research was carried out. For this reason, an attempt was made to substantiate all the personal and social enrichment it brings by approaching it from different points of view, starting from an interdisciplinary and intergenerational framework. As a physical activity, we reviewed how vocal instrument training intervenes, through proprioceptive processes, in the extension of vocal range (Llorens, 2017; Welch, 2005) and how to apply existing research to date on the stages of singing during adolescent voice change (Freer, 2015). Regarding its biological benefits, we understood that singing can have effects on breathing, stress, the immune system, motor skills and other

health variables in general. In this sense, there is evidence of improvements in pain, reduction of medication or medical visits (Gick, 2011).

Regarding its psychological benefits, Welch (2005) highlights its communicative power if a suitable environment is created, which contributes to channelling and positively managing emotions, as well as specific vocal improvements. On the social benefits, Adderley, Kennedy and Berz (2003) propose the choral group as a support for personal growth because of the social cohesion and the feeling of connection with others that singing brings. In this sense, Cassidy (2010, 2016) suggests the vocal warm-up as a time for socialisation and the rehearsal space as a space for participation. Therefore, we are finding that choral singing brings holistic benefits at any age and implications for health understood as physical, psychological, social and spiritual well-being (Clift, & Hancox, 2001).

From pedagogical studies for adolescents, we gathered information regarding the desirability of scheduling appropriate choral singing activities (Welch, 2005 and 2006), the responsibility of administration (Kokotsaki, & Hallam, 2007), the desirability of external experiences and lifelong learning (Arasi, 2006; Turton, & Durrant, 2002) and, in the educational framework, the value of musical performance parallel to the development of musicianship (outcome and process), the experience of enjoyment and the psychological benefits for self-esteem, public performance as a communicative bridge and the importance of a repertoire of musical quality, yet accessible and pedagogically appropriate (Freer, 2010).

Regarding musical learning in adulthood, studies led by Creech *et al.* (2013a, 2013b, 2014a and 2014b) point to the effect of choral singing on quality of life, emotion and psychological well-being and urge social responsibility. In this context, Conway and Hodman (2008) corroborated much of the research done so far on intergenerational projects outside music. They study the impact of intergenerational singing on older people, focusing on choral singing as a channel for communication and understanding. Belgrave (2011) highlights its impact on intergenerational interaction. And Clift and Morrison (2011), Camic, Williams and Meeten (2013) and Harris and Caporella (2014) as a channel of social integration and a potential reducer of the stigma of mental illness.

To conclude this research, a brief review was made of the ideal dynamics for carrying out intergenerational rehearsals and the most appropriate choral conducting techniques, both in the field of youth and older adults. Regarding rehearsal dynamics, Bell (2008) proposes the application of democratic principles in amateur groups to create a constructivist atmosphere and the social projection of the results through concerts; Creech *et al.* (2014b) advise the efficient use of non-verbal communication and the adjustment to the diverse needs of the choir members. Regarding choral conducting, Arasi (2006) calls for professional development as a guarantee of effective teaching and connection with the students, while Durrant (2009) stresses the use of expressive gesture and efficient use of rehearsal time, and Freer (2008) points to the positive effect of a constructivist environment.

Mainly, these sources inspired us to use the strengths of the elders in this research: their previous knowledge, their interests or their sense of humour, when scheduling group work by adjusting to the needs of each participant and diversifying tasks; to motivate through suggestive repertoires and to conceive intergenerational concerts as a channel of communication, understanding and social integration.

2.3. Review or Service-Learning music projects

Having detected this evidence, it was deemed appropriate to carry out an academic search for music-related SL projects that could inspire our fieldwork. After compiling and ordering the projects found with respect to their fields of action, classifying them by educational stages, we detected the following:

1. Accompanying training: we found experiences among peers (Chiva *et al.*, 2019) that focus on learning as help between subjects, courses or stages (Garre *et al.*, 2013); as an alternative to attending lectures at university (Gillanders, & Cores, 2016; Gillanders *et al.*, 2018); as an experience of musical collaboration between school and community (Bartleet, 2012); or as an example of an evaluation model of an SL project in teacher training (Cuervo *et al.*, 2021).
2. Supporting people with special needs: we have seen the power of music to encourage the acceptance of task diversification (Batlle, 2013).
3. Support for the elderly: this is where we found a greater number of projects. Belgrave (2011) highlights intergenerational success factors such as conversation, movement with music and small group work; Varvarigou, Creech, Hallam and McQueen (2011) the possibility of vocational references for pupils and the need for their support; Batlle (2013) reports the social projection of the artistic musical experience as a factor of motivation and enthusiasm; and Batlle *et al.* (2015) describe the performance of famous musicals as an activity to consolidate social commitment between primary schools and residences for the elderly.
4. In higher education, Conway and Hodgman (2008) corroborate the concern at the outset, the benefits gained, both musically and socially, and the increased respect acquired for others. Ballantyne and Baker (2013) report the construction of student knowledge through engagement in a senior citizens' centre.
5. Development cooperation: we highlight the role of the arts in social transformation (Harrop-Allin, 2017).
6. Health promotion: the work of Harris and Caporella (2014), a clear source of inspiration for our research, involved university students, patients with early-stage dementia and their families. From the latter, a group of projects were also reviewed where singing improved transfer situations between caregivers and mentally ill patients, improving the quality of life of both (Camic *et al.*, 2013; Clift, & Morrison, 2011; Götell *et al.*, 2012).

3. Method

In order to develop the research proposal and to check, once the pilot project had been implemented, whether its application in other contexts was feasible, the action research (AR) methodology was used, trying to emphasise, as proposed by Elliott (2000), its cyclical approach. We refer to its introspective spiral character, a spiral of cycles of planning, action, observation and reflection, made up of several steps or moments between which there is continuous feedback. A cyclical character that "implies a 'back and forth' (dialectical spiral) between action (praxis) and reflection (theory), in such a way that both moments are integrated and complement each other" (Latorre *et al.*, 2003, p.279). Therefore, on the basis of observation and reflection on teaching practice, theoretical grounding and the search for methodological alternatives, the SL project was designed, implemented and evaluated. And then another cycle began in which it was

designed, implemented and evaluated again. Thus, two stages were carried out: a first exploratory stage in which the experience was piloted and a second stage in which, through replications, it was tested for consistency. Each of these stages had three phases and in each of these there was a reflection/evaluation that led to the planning and action of the next phase which, in turn, was carefully observed in order to obtain new feedback.

The evaluation of the different interventions, as advised by the action research methodology, was carried out mainly through different qualitative data collection instruments: the field diary, semi-structured interviews and photographic and audio-visual material. In addition, in order to make the analysis of the results more reliable, all this information was contrasted with the data obtained through a questionnaire in drive format and the self-evaluation and improvement rubrics of the SL projects. In all cases, the instruments were validated by experts in the field of service learning and music, taking into account whether the questions posed referred to the research questions and objectives, whether they were relevant and whether they were well expressed (Escofet *et al.*, 2016).

3.1. Research design

In order to be able to carry out the action research, the project was designed beforehand, defining its scope of action. To do this, five processes were followed: first, the aspects that facilitated and motivated the learning of music and in particular choral singing were studied; second, educational dynamics were identified that favoured the development of the curriculum through the SL project (values and emotions as dynamisers of the development of the curriculum); third, the scope of the project was delimited; third, the scope of action of the SL project in supporting the elderly was delimited and its needs were studied; fourth, the necessary partnership relations were established to socially project the learning of choral singing in an elderly centre; and, fifth, needs, service, specific actions and learning from the project were defined. Once the framework for action had been defined, the AI structure was applied: the PSA project in choral singing was designed, implemented and evaluated for two consecutive years. The final design of the SL project can be seen in Table 1 below.

Table 1. Basic outline of the service-learning project

Participating entities	Residence for the elderly- Compulsory Secondary School
Activity	Intergenerational choir
Planning	1st PHASE: first term: presentation of the project to the pupils; first contact with the elderly: detection and assumption of needs by the pupils; preparation of the musical content of the experience (educational centre) 2nd PHASE: second trimester: joint rehearsals of the singing repertoire (gestural accompaniment and/or body and instrumental percussion); moments of reflection and evaluation (Senior Citizens' Centre) 3rd PHASE: Celebration: final concert; final reflection and evaluation; assessment of service learning and the project

3.2. Phases of AI research

This research was carried out during the academic years 2015-2016 and 2016-2017, in two stages. Each stage consists, as defined in the IA, of three phases. Each phase is systematised through action (A) and reflection (R). The various phases are specified in Table 2 below:

Table 2. Phases of the IA of the project

	Phases	Characteristics
Stage I	1. Project design	A) The service-oriented choral practice was planned: defining the scope of action in senior citizens' centres, establishing partnerships and defining the project R) Reflection revolved around the relevance of articulating choral singing oriented towards personal and social development; the creation of awareness of the reality of old age; the opportunity to establish relationships of social cooperation to meet nearby needs; and the possibility of focusing classroom learning on the therapeutic power of singing
	2. Implementation of the pilot project	A) The actions carried out were: detecting the needs of the elderly that could be addressed through choral singing; acquiring the necessary musical knowledge; carrying out the service; and celebrating the experience R) We reflected on: the importance of gathering opinions and information when choosing strategies to be used; the type of learning dynamics to be applied, where research, consensus, choice and enjoyment were detected as key actions; the impact of the rehearsals based on continuous reflection as support; and the power of recognition and dissemination of the project as motivating factors
	3. Evaluation of the pilot project	A) The educational impact on the students, the effect on the users, the functioning of the project and the results obtained were evaluated R) Learning was useful, enriching, enjoyable and generated critical thinking; the project improved the quality of life of the beneficiaries in the cognitive, physical and socio-emotional areas; the experience brought individual and group benefits, highlighting empathy and recognition; significant themes and information emerged in three ways: pedagogical, musical and emotional
Stage II	4. Redesign of the project	A) The results of the evaluation of the pilot project were reviewed and analysed; a compilation was made of the actions to be carried out and the didactic materials necessary to replicate the experience exactly; the possibility of redesigning and synthesising the basic outline of the project was opened up; and possible centres where to carry out the new applications of the project were sought R) Reflection was made on the need to focus on the participation and interaction between young people and the elderly, as it is a long-term service; the option of being able to use the available resources and materials or to rework them completely; to adapt the basic outline of the project to the different contexts of each new experience; and to make the criteria established regarding the recruitment of new centres for the replicas more flexible
	5. Implementation of the redesigned project	A) A follow-up structure was established for the new applications of the project; the new experiences were implemented and their differentiating characteristics were defined; the new results were analysed and a comparison between them was made R) The reflection contributed to assess the effectiveness of the coordination of the teaching staff responsible for the new applications of the project, which gave rise to creative and effective proposals; to detect the need for a particular accompaniment adapted to each new experience; and to confirm the positive impact of the project and the identification of differentiating aspects
	6. Analysis and results	A) The pilot experience and the new experiences were evaluated comparatively; the project was evaluated collaboratively by all the teachers responsible; the recurrent themes and the final units of analysis were specified; and the final results were analysed R) Reflected on the uniqueness of each application of the project and its coinciding impact: on the personal and professional repercussion on the responsible teaching staff; on the emotions, values, motivations and learning that the project channelled in all its participants; and verified the effectiveness of the project as a whole in energising these results

Table 3. Research participants

Year of the project	Educational institutions	Number of students	Age	Age Senior citizens' institutions (1)
1°	IES 1	23	15-16 years	Residence 1
2°	IES 1	24	15-16 years	Residence 1
	IES 2	20	15-16 years	Residence 2
	IES 3	18	15-16 years	Day centre for persons with brain damage 3
	Centre 4	23	8-12 years	Family Association 4

(1) The ages of the participating users ranged from approximately 40 to 90 years' old

3.3. Analysis process

The analysis process started by looking at the coherence in the planning of this project, i.e. whether the planned activities had produced the expected effects. Once this consistency was established, the analysis focused on the degree of coherence between the planning and implementation of the project.

In order to check the coherence in planning, theoretical frameworks, literature review, expert consultation and consensus among involved participants were used. Previous experience was also taken into account, as well as knowledge based on evaluative reports of similar projects carried out in the past, and between planning and implementation, the extent to which the implementation of the project corresponded to the project design was assessed. To this end, information was collected in relation to the specific objectives set. This information, based on the perceptions and experiences of the people involved, was used to check whether the preconditions were met, whether the activities were carried out as planned and whether the effects were as expected. This helped to identify shortcomings in implementation, which were gradually improved.

Consistency during implementation was established by linking causality between activities and effects, a key aspect of project design. And, since "the joint existence of theoretical coherence and coherence between the theoretical and empirical models implies empirical coherence" (Latorre *et al.*, 2003, p.268), it was considered that the real effects detected during the implementation of the project were the result of the activities carried out, programmed on the basis of the needs detected. This is the reason why, in this research, a global analysis was carried out to combine the logical coherence of the project planning, the empirical coherence of its implementation, and the coherence between the planning (theoretical model) and the implementation (empirical model).

Sticking now to more specific aspects of the analysis carried out, in accordance with Farías and Montero (2005), it should be noted that the transcription of the interviews was carried out by the researcher to avoid problems arising from the lack of familiarity with the subject of transcribers outside the study. Furthermore, in line with Ocaña (2006), the analysis model was spiral and in three phases: reduction of information; structuring and presentation; and drawing conclusions and verification. Thus, information was extracted from each of the techniques applied and, subsequently, specific results were structured and presented for the pilot project and for each of its replications, finally proceeding to contrast these results with the initially proposed research objectives.

Particular importance was given to the organisation and categorisation of testimonies, a systematic process that led to the establishment of relationships and the drawing of conclusions. The choice of the system of representation for the emptying of this information in the form of tables involved:

- Classification of the information into categories.
- Detection of units of meaning within each of these categories.
- The location of the quotations extracted - from the transcription of the information obtained from the different sources - within the units and categories that emerged in each case, sometimes making it difficult to pigeonhole a particular comment due to its plurality of meanings.

Once the testimonies had been organised and categorised, the data obtained from the different sources of information were crossed and contrasted, establishing points of convergence and detecting recurrent or constant themes in each of the project's applications, which were subsequently structured into units of analysis. No specific software was used to carry out these tasks. It was always approached as a focus group work among all those responsible for each of the replications of the project. All this information was reflected in a series of reference tables (Table 4) and served to detect four final dimensions from which the results obtained in the research were analysed:

Table 4. Applied process of information analysis

	Units of analysis			
	Students	Users	Teachers	Project
Recurrent themes that arose during the research	Emotions	Emotions	Personal benefits	Musical context
	Values	Values		
	Motivations	Motivations	Professional impact	Pedagogical context
	Learning Student perceptions	Learning		
	Reference tables			
Information analysis process and final results	Impact on pupils	Impact on users.	Synopsis of the results obtained through the collaborative evaluation	Comparative self-evaluation rubrics-comparative Pre-Post questionnaires of the project.
	Results of the comparative evaluation of the impact of the project on pupils. Results of the collaborative evaluation	Comparative results on the impact of the project on the users		Results of the collaborative evaluation Differentiating aspects of the five project applications
	Emerging dimensions referring to			
	Students	Users	Teachers	Project

3.4. Quality criteria

In this research, the absolute and relative quality criteria proposed by Latorre *et al.* (2003) were applied. Absolute quality was assessed on the basis of ideal judgements or specifications established by groups of experts. Consensus was prioritised when establishing these quality references from the following groups:

- Researchers taken as references for this research.
- Music teachers participating in this experience.
- Professionals in psychology and sociocultural activities working in direct contact with the elderly.

The relative quality was assessed based on criteria from programmes with similar objectives to the one being evaluated.

The results obtained confirmed the feasibility of the project and the adjustments adopted were a consequence of the logical process of growth carried out by this type of project when applied to different contexts. However, it should be noted that the guidelines set out in the pilot experience were confirmed in all cases.

3.5. Analysis of the final results of the research

The analysis of the final results of the research was carried out by contrasting and complementing the results obtained in the different phases. Thus, after each implementation of the project, the results obtained are analysed and conclusions are drawn that define new actions, thus following the analysis processes provided by AI (Graell, 2015). These process data are analysed by triangulating the data obtained from the interviews, surveys and evaluation rubrics. From all the data analysed, emerging categories were detected that structured the main findings of the research: those referring to the students, users, teachers and the project as a whole (Selfa, 2019). Therefore, in this section we will briefly differentiate and summarise the results obtained in the research regarding its participants, students and users.

4. Analysis and discussion of results

After the design, implementation and evaluation of the SL project (in five consecutive applications), the effects it has had on the learners' learning and on the quality of life of the users are determined.

The pupils gained in competences, commitment, responsibility and negotiation skills. Personal autonomy, reflective capacity and critical thinking skills were improved. Their participation fostered the construction of a positive self-concept and personal satisfaction. It fostered active listening, understanding, empathy, patience, and communication and social skills as described by De la Cerda (2015). The experience showed her the high formative power of effort and how it adds "real and complete social meaning" to "educational activity" (Martínez, & Puig, 2011, p.15). She perceived reality in all its complexity, as an environment of cooperation and generosity, but also of inequalities and marginalisation, contributing to the development of her moral values as considered by Martín *et al.* (2003). She discovered the voice as a source of emotions (Jenkins, 2005) and these as a filter that contributes to the reconsideration and improvement of singing in musical learning. She was surprised by her vocal or auditory progress, developed in a safe emotional environment, which enabled constant participation throughout the learning process, as recommended by Elorriaga (2010, 2011), and where the joint performance of songs was considered as a creative process. Experienced the therapeutic and social power of music. Developed feelings of trust, closeness and intimacy, among others. She discovered new vocational and professional role models, the importance of which is underlined by Gil *et al.* (2016). The male vocal role models and the joint choral performance changed her appreciation of singing and triggered a different and enriching vocal learning. Music facilitated non-verbal communication, allowed the sharing of experiences that in another context would have been very complicated and provided strategies to develop complex social interactions, as argued by Papatzikis (2014). All this contributed to the pupils' different attitudes towards old age, Alzheimer's disease and acquired brain damage.

Table 5. Results on the educational impact of the project on learners

Categories	Results on the educational impact of the project on learners
Motivations	Interest towards musical learning, quality singing and vocal technique Reconsideration of the effort from a global and multifocal approach Discovery of new realities Raising questions. Personal involvement Projection of the future through the evaluation of different professional profiles.
Learning	Discovering and improving vocal and choral skills. Development of quality criteria regarding musical selection and interpretation. Discovery of the therapeutic value of music Development of critical thinking Recognition of the values and weaknesses of old age Recognition of professional vocation
Emotions	Discovery of new emotions Processual management of experienced emotions Acquisition of a new emotional perspective Main experience of personal satisfaction
Values	Improvement in relationships through collaboration, reciprocity and cooperation Improvement of social skills Discovery of social commitment Main experience of empathy, patience and tolerance

Older people benefited from the intergenerational singing. Their testimonies corroborated this. This is consistent with the view of Hurst (2014), who found the positive effects of singing in a period of life subject to substantial change. They perceived affection, companionship and friendship during the service. They showed positive attitudes and interest in attending rehearsals, even overriding personal and medical obligations. We interpret, in agreement with Prickett (2003), that this is due to the opportunity to socialise that the experience offers. Eudaimonic well-being, related to personal growth and vitality, increased visibly. However, the extent to which the benefits come from the choral singing or from the intergenerational interaction remains to be determined.

The project took into account the needs and abilities of the choir members when adapting the vocal programme, as well as the spatial and environmental conditions (Yinger, 2014). The choir helped them to achieve and maintain positive self-esteem, build independence, and avoid feelings of isolation or loneliness, characteristics of psychological well-being, according to Pérez Aldeguer (2014). Their satisfaction at having regained skills that were thought to have been lost leads us to support the idea that society should provide musical opportunities throughout life to contribute to healthy ageing (Creech *et al.*, 2013a, 2013b, 2014a, 2014b). Having improved their cognitive endowment, with the unusual case of reminiscences in specific musical skills, confirms that the "self" is dynamic and can even be "recreated" anew, if the older person is motivated to improve as an older person, as advocated by Creech *et al.* (2013a, 2013b, 2014a, 2014b). However, more public initiatives would be needed as we agree with Prickett (2003) that older people seem to enjoy the opportunity to perform in music groups more if they have adequate knowledge and experience.

Emotional modulation also acted as an important filter for users in the acquisition of new learning. The main emotions were managed as they arose because, as Welch, (2005) points out, choral singing has, along with communicative power, the power to channel fear, anger, joy, sadness, surprise and disgust. In this sense, the aim was to create a favourable environment that would encourage self-discovery, the development of vocal ability, positive self-image and confidence, which would reduce stress levels and could alleviate possible experiences of disapproval suffered in the past.

We agree with Roulston (2010) that choral singing is one of the shared musical experiences capable of providing lifelong learning opportunities, giving meaning to life experiences, enlivening relationships with others, experiencing the joy of learning and, we add, bringing people from very distant generations closer together, breaking down negative stereotypes and prejudices (Conway, & Hodman, 2008).

Table 6. Results on the impact of the project on users in terms of quality of life

Categories	Impact of the project on the quality of life
Motivations	Restoration of zest for life and rejuvenation through intergenerational relationships Break from routine Improvement of coexistence between users Awareness of the recovery of certain skills Discovery of singing, vocal technique or new repertoires Enthusiasm for concerts
Learning	Experimentation of cognitive, psychomotor, psychosocial and vital improvements Management of memories and emotions Renewed vision of youth Improvement in singing and musical judgement
Emotions	Expression and control of emotions Feeling of usefulness and empowerment Positive attitude Enjoyment of company
Values	Experiencing excitement and admiration Improved interaction with youth Perception of help, affection and patience Practice of tolerance Empowerment towards singing and social participation

5. Conclusions

Following the analysis of the results, it can be seen that the intergenerational PSA project enhances the learning of the students, as well as contributing to improving the quality of life of the users who have also participated.

The very development of the research and the pace of the research has made it possible to establish the phases and evaluation mechanisms, in terms of the musical and human training of the young participants. Throughout the research, the relevance of choral singing in Secondary Education as a key element for the emotional development of adolescent pupils, the educational practice of the SL as a facilitator of this activity and of education in values, the enrichment that the intergenerational relationship entails and the personal, professional and social benefits that the project provides are evident.

The project is shown to be a trigger of motivation towards learning choral singing in the participating pupils. Without its realisation, a large part of the participating pupils might never have given themselves the opportunity to experience choral practice. We cannot continue to deprive them of all its benefits.

The study shows, firstly, that the students consider choral singing a pleasant, interesting, accessible and very valuable practice from an emotional and social point of view; secondly, the project provides a favourable context for the formation of choral singing, accepting it willingly and increasing its practice; and thirdly, the application of the project improves the reflective capacity, critical thinking, responsibility, autonomy, personal initiative, self-esteem, learning to learn competence and social and civic commitment of the students.

Regarding the participation of users in the SL project, an improvement in quality of life is demonstrated after the experience. The exploration of the users' needs, their care and the

evaluation of the project have demonstrated the effect that singing in the choir has had on the quality of life of all the participants. Firstly, singing has improved the verbal, cognitive and motor skills of the elderly, as well as providing relaxation and physical well-being, enthusiasm, zest for life and rejuvenation. Secondly, the project has fostered in its participants the initiative to help, the feeling of being useful, sharing experiences, being understanding and collaborating with others. Thirdly and finally, the results of the research reaffirm that the emotional experience has had a positive influence on the motivation for a wide range of learning.

The research shows that, after the implementation of the project, the students have learned substantially about choral singing and about the importance of caring for vulnerable populations such as the elderly. In turn, it is observed that the participating users have gained in vitality and joy, elements that make up the quality of life.

Note: this text is an automatic translation from Spanish to English. Some errors may have crept into this translation. We apologise for this.

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