

ARTICLES**Soundtrack Composition and Participatory Creativity in Secondary Education**

Creatividad participativa en la composición de bandas sonoras en Educación Secundaria

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Abstract

The creation of soundtracks assumes a transversal and participatory approach to creative action in the field of Secondary Education. With the aim of gaining a deeper understanding of the aspects that characterize the composition of soundtracks in Secondary Education, a project has been carried out in which two groups of third year Secondary Education students (14-15 years old) attending a center in the Community of Madrid (Spain) have participated. From an artographic perspective, and from a teaching, research, and artistic perspective, information was collected through participant and non-participant observation, video recordings, interviews, class diaries, and questionnaires. The results suggest a model of participatory creativity focused on a holistic approach through: (1) the active involvement of the students in the design, process, and results of the didactic project; (2) high motivation (individual-social); (3) positive emotions; (4) the environment through which meaningful musical experiences have been constructed; and (5) the collective identity generated through musical creation.

Key words: Musical composition; Secondary Education; creative development; music activities.

Resumen

La creación de bandas sonoras supone una aproximación transversal y participativa a la acción creativa en el ámbito de la Educación Secundaria. Con el objetivo de profundizar en la comprensión de los aspectos que caracterizan la composición de bandas sonoras en Secundaria, se ha implementado un proyecto en el que han participado dos grupos de tercero de la ESO (14-15 años) de un centro de la Comunidad de Madrid (España). Desde una perspectiva artográfica, y mediante la perspectiva docente, investigadora y artística, se recogió la información a través de la observación participante y no participante, grabaciones de vídeos, entrevistas, diarios de clase y cuestionarios. Los resultados muestran un modelo de creatividad participativa centrado en una aproximación holística a través de: (1) la implicación activa del alumnado en el diseño, proceso y resultados del proyecto didáctico, (2) la elevada motivación (individual-social), (3) las emociones positivas, (4) el ambiente a través del cual se han construido experiencias musicales significativas y (5) la identidad colectiva generada a través de la creación musical.

Palabras claves: Composición Musical; Educación Secundaria; desarrollo creativo; actividades musicales.

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1. Introduction

1.1. Soundtracks: music in the audio-visual media

Music has been linked to various forms of temporary art throughout the History of Humanity, as well as to other scenic manifestations ranging from the breadth of the Greek conception of *Musiké*, to the multiple forms of dramatic representation produced in the palaces that would culminate in the birth of Opera at the end of the 16th century and, later, with the invention of cinema at the end of the 19th century. Nor can we forget its relationship with the word, revealing implicit and explicit links, more or less verifiable, through the programmatic music or symphonic poems characteristic of the Romantic period. In this respect, Montoya (2016) classifies and categorises the functions of film music and concludes that it serves as an element that provides social meaning, due to its setting function (it predisposes the spectator to endow it with meaning). Similarly, from the perspective of musical semiotics, González (2015) discusses the semantic value of music and how it depends on a series of cultural references that become cultural conventions.

These conventions, assimilated by adolescents, are key to developing their creativity since, as Cremades *et al.* (2015) argue, music is a decisive factor of social cohesion and acceptance that connects people and helps to express values and identity. In this sense, Cohen (2010) approaches the analysis of music in film from a psychological perspective linked to emotions. In this way, biological and psychological factors that contribute to the multisensory integration of visual and auditory information are highlighted (Spence, 2007), in what has been defined as a Cross-Modal Learning applied to the temporal arts (Malbrán, 2010). Thus, as music expresses social identity and is a form of self-expression (DeNora, 2000), music is also a feature of identity in audio-visual narrative, through which it facilitates the creation of shared cultural universes through individual and collective emotion, resulting in a synthetic holistic experience, as Cohen (2000) points out.

1.2. Musical creativity in the composition of soundtracks in secondary education

Since the first decade of the 21st century, a review of the approach to creativity in the educational field has become evident, both from a didactic and research perspective (Hernández-Torrano and Ibrayeva, 2020). From the latter, a conceptual delimitation can be made through creative action, which includes both the psychological, behavioural and socio-cultural, being defined by Glăveanu and Beghetto (2020, p.2) as: "new person-world encounters based on meaningful actions and interactions, which are characterised by the principles of openness, non-linearity, multi-perspectives and future orientation". It is also necessary to mention individual creativity, whose genesis is located in the romantic ideal of the creative genius from an individual and masculine disposition, as opposed to the shared responsibility of collaborative creativity, both from the perspective of results and authorship. All this, from a shared system of conventions, proper to the corresponding domain. From this position, emphasis has been placed on: (1) collaboration from its social and distributed perspective (Miell and Littleton, 2004; Sawyer and DeZutter, 2009); (2) inclusion in transformational learning processes (Lapidaki *et al.*, 2012); (3) interculturality, as a cultural construct (Saether, *et al.*, 2012); (4) empathy in group interactions (Cross, *et al.*, 2012; Seddon, 2012); (4) participation as a multidimensional element in creative processes (Lage-Gómez and Cremades-Andreu, 2019). In this way, an alternative and critical

framework to the nineteenth-century conception of music is proposed, in line with other authors (e.g. Burnard, 2012), and with clear implications for music education.

1.3. Music composition in Secondary school through soundtracks

Musical creation in the Secondary school classroom gained visibility thanks to avant-garde composers from the Anglo-Saxon scene such as John Paynter, Murray Schaffer, George Self or Bryan Dennis, from the 1960s onwards. Subsequently, from the 1990s onwards, it acquired significant importance in terms of both academic curriculum and research (Burnard, 2007). In the field of Secondary Education, the composition has been considered as an artistic and problem-solving activity (Berkley, 2004), which promote (1) the development of creative thinking (Menard, 2015), (2) the understanding of musical and artistic phenomenon (Kokotsaki and Newton, 2015), the development of aural, rhythmic or interpretative skills from a motivational perspective (Chen, 2020), or (4) the development of the student identity (Thorpe, 2018). Moreover, in this stage, research on composition could be classified as the one focused on: (1) teaching processes (e.g. Devaney, 2019), which allows identify associated problems and propose strategies from various methodological approaches, or (2) learning processes, developed by teacher researchers with a (i) transformative purpose (e.g. Lage-Gómez and Cremades-Andreu, 2021), (ii) ethnographic purpose, with the aim of improving understanding of the social phenomenon, through internal rules, division of tasks, verbal and non-verbal behaviour (Burnard and Dragovic, 2015), the creative process, described as cyclical and continuous (Burnard and Yunker, 2004) or linear (Fautley, 2005), or (iii) assessment (Fautley y Savage, 2011). In turn, didactic proposals have varied according to instruments or materials used, whether acoustic or electronic, or through the use of computer programmes (Riaño *et al.*, 2022), of the guidelines proposed (Hopkins, 2015), the use or not of musical notation (Savage and Fautley, 2011), or the compositional style (Tobias, 2013).

They also depend on the different possible groupings, individual (Fowler, 2014), cooperative or collaborative (Murillo *et al.*, 2019). Ruthmann (2008) and Bolden (2009), for their part, have shown in their work the importance of composing soundtracks in both Primary and Secondary school. In addition, the didactic proposal developed in this work involved the students' contact with composition through the culture of the visual, so that film music creation represents a possibility of a transversal and motivating approach to musical creation. Thus, the aim of this study focuses on answering the following research questions:

- How did the creative process develop during the didactic project?
- What aspect characterise learning during the didactic project developed in the classroom through participatory processes of musical creation?
- What factors enable the creation of a participatory learning space as a framework for participatory creativity in a group composition project in Secondary Education?

2. Method

This study takes as its epistemological principle the perspective of teachers researching in the context where they carry out their teaching activity, conceived in an ethical, participatory and transformative way (Kemmis, 2010); in which, as developed in this study, students, teachers, researchers and artists have been involved in a shared social space as a community of practice (Wenger, 2002).

This space was for interdisciplinary and experiential artistic creation through "a/r/tography", a procedure that has been defined as a type of research-based artistic practice in which art/research and teachers coexist (Irvin and de Cosson, 2007). This study can be defined as a/r/tographic, due to the role of the teacher-researcher and the artist (in this case, a composer engaged in an act of collaborative creation).

2.1. Context and participants

The school is located in Arganda del Rey, a town in the southeast of the Community of Madrid. It is a macrocentre where Compulsory Secondary Education (ESO) represents a small section that coexists with Vocational Training Cycles. The project involved two groups of year 10 of ESO (14-15 years of age), in which music is a compulsory subject with a teaching load of two 55-minute sessions per week.

The groups had a small number of students: 19 and 15 in each group. The two groups had very different characteristics, a fact that was corroborated by the comments of the other teachers. The group A was an active and generally participative group, broadly interested in the school environment, with a positive self-concept in relation to their musical abilities, and generally attracted to the procedural activities in the music classroom. The group B was characterised as a generally passive and uninvolved group, with some school histories of failure and complicated family situations. Poorly motivated at school, they nevertheless showed positive behaviour. In addition to the teacher and the students, a soundtrack composer, teachers from the Guidance Department, a trainee teacher (for a postgraduate degree in secondary education) and university researchers participated.

2.2. Instrument

For data collection, instruments designed in the planning phases of the study around the research questions were used. The instruments were: (1) participant observation, carried out by teachers, recorded on video through the recording of the sessions and recorded in the class diaries; (2) non-participant observation; (3) four individual interviews with participant and non-participant observers; (4) semi-structured group interviews with participating students, recorded on video; and (5) a questionnaire to find out the students' perspective after the development of the project.

2.3. Procedure

The students were given an outline of the initial project idea and asked for their opinion, involving them in the development of the project. In addition, permission was sought from the management team of the secondary school, thus providing the necessary resources for the project. The students' families were informed and gave their written informed consent for the video recordings. Permission was also obtained from the non-participant observer and the collaborating artist.

Moreover, the data have been coded and triangulated to answer the research questions. In this way, an inductive perspective has been approached that has allowed for the understanding of a variety of related elements in the study. The analysis of the questionnaires has been triangulated

with the narrative analysis of the discourses obtained through the interviews, class diary, and video recordings of the sessions.

2.4. The didactic project

The didactic project consisted of the creation of a soundtrack for an animated short film in each group, carried out through cooperative composition as a didactic strategy that was developed during 26 sessions over a school term. The project represented the pupils' first contact with musical creation.

Following the agreement with the students for the project, an initial selection of 12 short films was made on the basis of the following criteria: (1) script suitable from a didactic point of view, (2) duration (3-8 minutes), (3) variety of genres, (4) countries of production, (5) animation characteristics, (6) cinematographic quality. Students were also invited to propose short films. The aim of this request was to encourage the active participation of students in the decision of every aspect that have been part of the project, fostering a democratic and participatory process. Thus, the first session was dedicated to viewing a series of short films in order to select the one to be used in the project. Students established, individually and in writing, an analysis of the short films with a list of preferences and the role they would like to play. Results in both classes converged in the choice of the animated short films *Paperman* and *Presto*.

In the second session, the working groups were established. Each student was free to choose the role they wanted to play in the project, either as a composer using the instruments available in the classroom, or as a sound technician working on the generation of sound effect by using a sound library or creating their own, as well as mixing with the image using the *Adobe Premier* software. They were also able to choose the instrument(s) they were going to play according to their interest and availability. Each group was distributed in three different classrooms: the music room for the composition group and two other classrooms nearby for the sound effects group.

In the third session, a brainstorming session and the internal organisation of the working groups were used to get acquainted with the process. Subsequently, a soundtrack composition workshop was held with a professional composer to familiarise the students with the basic characteristics of soundtrack composition and to motivate them in the development of the project. The composer attended two more sessions with each group. His role was to supervise and support the compositional process, to facilitate the use of the sound bank and to explain the functioning of the software to the students. From the sixth session onwards, the compositional process was developed and lasted for 20 sessions, through a process focused on facilitating experimentation by the students. Once the composition process was completed, one session was devoted to recording the soundtrack in a recording studio, and a final session was devoted to the end-of-course concert, in which the projects developed were performed.

3. Results

The data have been coded and triangulated to answer the research questions. Thus, the dense description of the whole process developed to explain the participatory creativity that emerged during the implementation of the project is proposed.

3.1. Creative and participatory process

From the notes in the class diary, the viewing of the videos of the different sessions and the data collected during the interviews, it was possible to confirm that the compositional process was cyclical and continuous. Rather than a constant interaction between the different phases, all of them interacted in a cyclical and continuous way, so that the progression of the process was intuitive and not systematic.

From the analysis of the group composition processes, it can be seen that, in general, responses were reviewed and repeated over a long period of time before reaching the point of task verification, while the time spent on task identification and preparation was relatively short. Thus, taking Amabile's (1996) model as a reference, the following phases can be noted:

1. Identification of tasks.
 - a. View and comment the scene.
 - b. Individual selection of musical instruments.
 - c. Experimentation with sounds while playing the scene as an initial phase of task identification.
2. Preparation.
 - a. Group brainstorming as a preparatory phase through dialogue, experimentation, trial and error, and chaos to creation.
3. the generation of a response.
 - a. The development of a response through successive approximations, using a trial and error as a basic procedure.
 - b. Task validation.
4. Final version of the soundtrack.

Each group was responsible for organising the time and space available. Thus, it could be identified that the learning processes during the cooperative composition stage correspond to informal learning procedures, with directed chaos during learning being typical during certain phases. Consequently, it was possible to distinguish between teaching strategies aimed at fostering cooperative learning, which the non-participant observer pointed out as a factor for improvement on the part of the students, and the informal group learning processes developed during a large part of the project, based on the personal involvement and sense of commitment of the student body. Thus, through intuition, trial and error experimentation and constant negotiation, the students learned significantly.

The creative process was clearly cyclical, gradual and constant, albeit with ups and downs. However, it can be defined as a bottom-up process, associated with the partial results reported by the students. In the words of one student, "we were not always happy with things, but we saw that little by little they were starting to work" (Student, 1, interview). A participant observer highlighted "the positive evolution of the process" (Participant observer 1, class diary). The composer-in-residence and teacher-researcher noted that "the progressive satisfaction with their own creations was an essential factor in the progress of the project". In both classes, the degree of satisfaction with the project was high, with 96.7% feeling very or fairly satisfied with the results obtained.

We observed a turning point when students began to identify individually and collectively with the project and there was a significant improvement in the classroom atmosphere, with the

generation of a series of synergies between the group and the teachers, and in their musical attitudes: "I think there is a moment when everything fits together and everything seems to work much better" (Teacher, class diary). The majority of students rated the atmosphere as "good" or "very good" (93%), while only 7% thought it was "not so good" or "bad".

It was possible to confirm that the creative process was participatory and shared. That is, the result was not the individual sum of many parts, but a collective creation arising from a group acting as a creative unit. Although the role of the students in the group varied according to multiple factors, such as their musical skills, motivation or well-being, the whole group of students was aware that each played a key role in the final outcome. One student stated: "We all contributed equally. Pedro, for example, knew more about music and that's why he took the lead, but without everyone else's input, our composition would have been much worse" ('Student 2, interview). This was confirmed by the student himself, who was very conscious of his role: "We all collaborated by doing our part. It was our project" ('Student 3, interview).

Finally, the students created meaningful musical experiences according to the musical role they adopted in the classroom as creators or performers. Two years after the project was carried out, three students were interviewed and a focus group was formed with seven of the students who participated. Their meaning of the experience was clear: "I get emotional when I watch the short film again. I remember everything we did" (Student 4, interview) (During the interview, the short film with its music was shown again), "Going back to the music classroom makes me remember all the good times. I get excited" (Student 5, interview) (The interview took place in the music classroom. This pupil had not studied music during the previous two years).

3.2. The voice of students in the teaching-learning process through the products produced

Music and images played an important transversal role in the teaching/learning process during the project. The images were clearly used as a compositional guide by the students and two basic procedures were chosen to add sound to the images on screen:

1. Firstly, by matching the movements of characters or other screen elements with music or onomatopoeic sounds. This synchronisation technique is defined as *Mickey-Mousing* and is typical of cartoons. This reflects how learners used their audio-visual knowledge as a starting point for constructing their own learning.
2. Secondly, through the composition of incidental music. This was used to emphasise psychological or emotional aspects or to generate a certain atmosphere that favoured the emotional involvement of the viewer or the understanding of the scene. This procedure was used to compose themes associated with the main characters in the scene in what is known as the *leitmotif* technique. It was used exclusively by one of the groups. Again, this is a 'dramatic' device that is aurally familiar to the pupils, and this was also evident in the other group, where *Mickey-Mousing* alternated with the *leitmotif* technique, although the latter clearly predominated. As Chion (1993) points out, this can be categorised as empathic music, since it plays a decisive role in conveying emotions in the scene, adapting the composition to cultural codes of joy, sadness or other emotions suggested by the image.

In the analysis of the students' creative processes and their final creation, the origin of their musical ideas for the soundtrack was important because it was found that, to a large extent, it was influenced by their cultural musical background, through conventions or clichés, assigning

meaning to the music based on what they had previously heard. This was demonstrated in some cases, or they were guided inductively by the composer or resident teacher.

Implicit uses of music, such as the *Pirates of the Caribbean* soundtrack theme or Tchaikovsky's *Neapolitan Song* (see Figure 6 for an example) were observed in the initial brainstorming phase. Pedro studied piano. He was the only one in his group who studied music outside school, and his musical skills were recognised by the rest of the group. When interviewed, he described with great clarity the genesis of the initial soundtrack idea and its development: "After some time trying things out, searching, I played a piece by Tchaikovsky that I was learning, which in the end we used as a base. Afterwards, everyone contributed ideas that we kept adding". And, as for the explicit use of a theme, this could be seen in the other group, through the incorporation of *They don't know about us* by One Direction.

The instrumentation of the *Presto* soundtrack is: two keyboards, drums, electric guitar, saxophone, chromatic bass xylophone, 3 chromatic xylophones, chromatic alto metallophone, chromatic soprano metallophone, 2 chromatic lyres, 2 chromatic chimes. In relation to the audiovisual structure: (1) opening titles and dressing rooms before the performance. Reinforcement of the atmosphere. Thematic presentation. (2) scene: *Mickey-Mousing* technique, synchronisation, atmosphere, expectation. (3) chase. Reinforcement of the atmosphere; (3) conclusion: End of show Theme 1 Rock; (4) credits: guitar chords. The soundtrack is composed synchronised with the image as a piece of music from beginning to end, in a 4/4 time signature in the key of E flat Major.

In the following, the analysis of the soundtracks is presented through the various sections (*Cue*), which are numbered and presented according to a temporal chronology:

- *Cue* 1M1 00:00-00:12: the theme of the rabbit, the co-protagonist, is presented in an incidental role and according to the harmony E-flat Major - A-flat Major - E-flat Major - B-flat Major (BSO. *Presto*). The melody is presented in a D-A setting with a constant rhythm of quavers and crotchets (Figure 1).

The image shows a musical score excerpt for the theme of co-star 1. The score is in 4/4 time with a tempo of 120. It features six staves: Glockenspiel, Metalófono Soprano, Metalófono Contralto, Xilófono Alto, Xilófono Bajo, and Saxofón Contralto. The Xilófono Bajo staff is highlighted with a red box. The score is in the key of E-flat Major (three flats) and consists of a series of eighth and sixteenth notes.

Figure 1. Excerpt from the score of the theme of co-star 1

- *Cue 1M2 00:13-00:34*: a secondary theme is presented, with an incidental function of emotional reinforcement and transition. The harmony is C Major-re minor-C Major, implicitly referencing G Major with dominant seventh. The melody is soothing and evocative in a ninth setting, G-F, with a rhythm based on dotted crotchet and eighth notes (see Figure 2).



Figure 2. Excerpt from the score of the secondary theme

- *Cue 1M3 00:35-00:55*: the theme of the magician, the co-protagonist, is presented with an incidental function according to the *Mickey-Mousing* technique and based on the harmony C minor- F minor- C minor- F minor- C minor. The melody emphasises the rhythm, marked in crotchets and eighth notes, and the harmonic character.



Figure 3. Excerpt from the score of the theme of co-protagonist 2

- *Cue 1M4 00:56-00:01:12*: A secondary theme is presented in which the theme of the magician is evoked, with an incidental function according to the harmony C Major – D minor – C Major – D minor. Syncopated Melody in the C-G range, with a rhythm similar to 1M2

- *Cue 1M5 01:13-01: 03:27*: The themes of the rabbit's steps, the magician's tricks, the magician's steps, the movements of the magician's hat, the clicking of the rabbit's teeth, the movements of the ladder and the blows on the stage are presented. All this with an incidental function through the *Mickey-Mousing* technique, with a varied harmony depending on the theme and harmony based on scales, chords or effects. The onomatopoeic rhythm, according to the movement of the characters.



Figure 4. Excerpt from the score of the magician's tricks

- *Cue 1M6 03:28-04:19*: variation on the rabbit theme, with a diegetic function, according to the harmony C Major- F Major. Agile melody, in eighth notes in E with movement by joint degree and beading. Rhythm marked with a constant pulse.



Figure 5. Excerpt from the score of the magician's tricks

- *Cue 1M7 04:20-04:46*: The rabbit theme (1M1) is presented with the inclusion of saxophone in the melody and rhythmic reinforcement with drums.

- *Cue 1M8 04:47-05:15*: The music of the credits is presented with an incidental function as an epilogue through a harmonic sequence with the electric guitar according to a rhythmic pattern typical of POP music.

- *Cue 1M1 00:07- 01:10*: main theme of the protagonist, with an incidental function according to the harmony C Major - F Major (BSO. *Presto*). Undulating melodic movement, according to a simple rhythm of half and quarter notes.

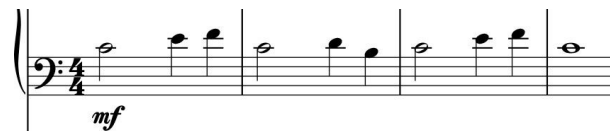


Figure 6. Excerpt from the score of the main character's theme song

- *Cue 1M2 01:11-03:01*: Main theme and variations and with an incidental function, which recreates emotions of the main character according to the same harmony of 1M1, and an ascending melody that moves by thirds with a simple, constant and square rhythmic sequence.



Figure 7. Excerpt from the score of the main character's theme song

- *Cue 1M3 03:02- 04:31*: Theme of hope, with an incidental function that recreates the emotions of the protagonist with a harmonic continuity (1M1) and an undulating melodic movement with a rhythmic reinforcement of the drums.



Figure 8. Excerpt from the score of the main character's theme song

- Cue IM4 04:32 – 5:53: theme of the quest, as a repetition of IM3, with an incidental function to reinforce the emotions of the characters according to the harmony of IM1 and IM3 and the melodic fusion of the main themes IM1 and IM3.

Analysis of the soundtracks and other creative processes reveals the emergent semiotic language from which the music was derived, based on the pupils' cultural musical background. All of this occurred intuitively, along with the use of other previous themes or guidance from the composer and the teacher. The project as it was conceived would not have been possible without this prior knowledge of cartoon music or enculturation, as it led the pupils to make traditional associations between music and images, or compositional principles, based, among others, on Rossini's aphorism of simple melody and clear rhythm. This can also be seen in the way the female theme is treated in the soundtrack of *Paperman*. For this short film, two themes were composed, one for the male protagonist and one for the female one. The secondary character of the latter became apparent in the analyses, possibly related to social notions of gender.

The semiotic characteristics observed in *Presto* are another good example, with a lower pitch, slower tempo and lower instrumentation contrasting with a higher pitch, faster tempo and higher-pitched instrumentation: i.e. the magician compared to the rabbit or, in other words, the bad guy contrasted with the good guy. All this demonstrates the influence of the pupils' audio-visual cultural background, with its familiar conventions, used as a starting point and guide during the creative process.

4. Discussion

From the analysis of the data, the multidimensional and holistic nature of learning centred on creativity and cooperative mode can be observed. Thus, in line with Burnard and Dragivic (2015), the learning processes have developed through a classroom environment based on mutual trust, with a high level of responsibility, determined by the well-being and participation of the students. Moreover, such an environment has been characterised by a high and growing degree of motivation from which positive emotions have emerged as a form of social action through, among others, "flow" as a collective state, in line with Lage-Gómez and Cremades-Andreu (2021). In this sense, it reveals the consideration of emotion in music, as Seddon (2012) points out, as a form of social action rather than as an internal state. As Veach and Gladding (2007) point out, creative group work works with adolescents because it is motivating, and with the help of a mentor they are able to express their emotions, in this case through music. The pupils' expressions of the project and what emerges from the joint analyses carried out indicate and highlight the role of positive emotions, from a multidimensional perspective, in their own learning. The consideration of the creative process as cyclical and constant is highlighted, in line with Burnard and Younker (2004).

Just as music expresses social identity and is a form of self-expression, in audio-visual narrative music constitutes a feature of identity, through the creation of shared cultural universes, as DeNora (2000) has pointed out. The influence of the results, at a partial level and in the final product, has been evidenced as a motivating agent and element that has favoured the identification

of the groups around their creations, that is, the creations of the groups have benefited the development of a collective identity, since the pupils have incorporated them as their own, using music to alter the interpretation of a visual representation, as suggested by Cook (1998). The pupils have been able to embody a series of conventions from the audio-visual world that have served as a common starting point, highlighting the importance of this prior knowledge acquired over the years, which they have adapted to give the music a personality of its own according to the characteristics of each classroom.

As suggested by Lage-Gómez and Cremades-Andreu (2020), creative processes in the classroom can receive a new innovative approach through educational projects oriented towards shared musical creation, based on three forms of participation: (1) active student participation in decision-making from the design phase of the project to the final result; (2) student participation in a shared goal which, in turn, leads to a sense of group identity and, finally, (3) participation through enculturation; that is, students participate in their basic musical and audio-visual culture, using it as a starting point in the creative process.

5. Conclusions

The project and the creative experience described in this paper can be considered participatory in the sense that it had a shared goal, with all that this implies. At the same time, this goal was freely chosen and jointly achieved by the students, who also participated in the design of the project and in the organisational and creative processes. Everyone contributed to the realisation of "their project", but in slightly different degrees according to their musical abilities and motivation. Thus, the project itself had an educational objective and, by extension, a transformative objective in the learning processes involved. The pupils' participation in the project also implied a high degree of personal involvement on both a social and emotional level, aimed at the creation of a soundtrack, so that the teaching and learning processes were all focused on the achievement of this specific objective.

In terms of participatory creativity, students were actively involved in the design and outcome of the project, thanks to a classroom environment characterised by a relationship of mutual trust between students and teacher, as well as a strong sense of commitment to the initiative, as a shared effort was required at all the different stages of the project. Thus, the potential for creative learning is determined by the importance of the students' active participation in their own learning process, which they infuse with meaning. In this learning process, a sense of group identity is forged through the creation and performance of their own music and the creation of a shared cultural world, based in turn on a system of audiovisual conventions familiar to them from their own cultural background. In this way, each participating student takes on his or her own task within the group, depending on his or her musical skills or the instrument(s) he or she plays. They construct musical meanings through their role as creators or performers in an intuitive and eclectic approach to the language of music and musical styles, drawing on a multitude of different influences based on both the students' and the teachers' musical knowledge.

In short, and as an element observed both by the students and by observers and researchers, the connection of a variety of elements that have interacted from a holistic perspective in the learning processes is reflected. These have determined the variety of learning generated in the classroom within the framework of creative and participatory classroom processes. We refer to motivation, positive emotions, atmosphere and well-being, democracy and the voice of the

pupils, the identity of the group framed in the development of didactic projects of musical creation.

5.1. Implications for teaching practice

We have proven the usefulness of soundtrack composition, due to its authentic, inclusive, and reflective character in which different languages have merged into a single artistic manifestation. This has been due to the fact that:

1. It represented a compositive guide for the students. Music provides expressiveness, creates the atmosphere and helps to temporally structure the image. However, if we look at this fact from a different and didactic point of view, the image has become an element which guided musical creation.
2. It has been a motivating agent, encouraging students to identify learning as authentic, situated in a context closet to their own reality.

From the didactic approach of musical creation, we have verified that the usefulness of the use of visual supports to contact composition and improvisation in the context of Secondary School.

In all of this, time has proved to be a conflictive element in the development of educational projects, largely due to the difficulty of finding a balance between school time and creative time". In other words, classes have a specific duration within the framework of a classroom programme, which is not always linked to the needs of the pupils for the development of the projects.

We must highlight the importance of pupils' motivation, through their identification with the project in the achievement of meaningful musical experiences. However, cooperative composition generates some problematic aspects in relation to space: for this, the use of different working spaces for the various groups is an important element for the development of creativity-centred and meaningful processes.

We propose a classification of musical composition in the classroom, which encourages its planning: (1) process-product; (2) individual or collective; (3) use of musical instruments, objects, computers, software, or mixed; (4) inexperienced students or students with previous experience; (5) use of musical notation, musical score or without written support; (6) objectives; (7) informal or formal learning; (8) guidelines proposed to the students: open or closed; (9) compositional style; (10) proposed time.

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Referencias

- Amabile, T.M. (1996). *Creativity in Context: Update to the Social Psychology of Creativity*. Westfield Press.
- Berkley, R. (2004). Teaching composing as creative problem solving: Conceptualising composing pedagogy. *British Journal of Music Education*, 21(3), 239-263. <https://doi.org/10.1017/S026505170400587X>
- Bolden, B. (2009). Teaching composing in secondary school: a case study analysis. *British Journal of Music Education*, 26(2), 137-152. <https://doi.org/10.1017/S0265051709008407>
- Burnard, P. (2007). Prelude: Provocations in creativity research. En L. Bresler (Ed.), *International Handbook of Research in Arts education* (pp.1175-1179). Springer.
- Burnard, P. (2012). *Musical Creativities in Practice*. Oxford University Press.
- Burnard, P., and Younker, B.A. (2004). Problem-solving and creativity: Insights from students' individual composing pathways. *International Journal of Music Education*, 22(1), 59-76. <https://doi.org/10.1177/0255761404042375>
- Burnard, P., and Dragovic, T. (2015). Collaborative creativity in instrumental group learning as a site for enhancing pupil wellbeing. *Cambridge Journal of Education*, 4(3), 371-392. <https://doi.org/10.1080/0305764X.2014.934204>
- Chen, J.C.W. (2020). Mobile composing: Professional practices and impact on students' motivation in popular music. *International Journal of Music Education*, 38(1), 147-158. <https://doi.org/10.1177/0255761419855820>
- Chion, M. (1993). *La audiovisión. Introducción a un análisis conjunto de la imagen y el sonido*. Paidós.
- Cohen, A.J. (2000). Film music. Perspectives from Cognitive Psychology. En J. Bhuler, C. Flinn y D. Newmeyer (Eds.), *Music and Cinema* (pp.360-377). University Press of New England.
- Cohen, A.J. (2010). Music as a source of emotion in film. En P.N. Juslin y J.N. Sloboda (Eds.), *Handbook of Music and Emotion Theory, Research, Applications* (pp.249-272). Oxford University Press.
- Cook, N. (1998). *Analysing musical multimedia*. Clarendon Press.
- Cremades, R., Lorenzo, O., and Turcu, I. R. (2015). Raï music as a generator of cultural identity among young magrebies. *International Review of the Aesthetics and Sociology of Music*, 46(1), 175-184. <https://www.jstor.org/stable/24327333?seq=1>
- Cross, I., Laurence, F., and Rabinowitch, T.C., (2012). Empathy and Creativity in Group Musical Practices: Towards a Concept of Emphatic Creativity. En G. Welch y G. McPherson (Eds.), *The Oxford Handbook of Music Education* (pp.337-353). Oxford University Press.

- Devaney, K. (2019). 'Waiting for the wow factor': Perspectives on computer technology in classroom composing. *Journal of Music, Technology and Education*, 12(2), 121-139. https://doi.org/10.1386/jmte_00002_1
- DeNora, T. (2000). *Music in Everyday Life*. Cambridge University Press.
- Fautley, M. (2005). A New Model of the Group Composing Process of Lower Secondary School Students. *Music Education Research*, 7(1), 39-57. <https://doi.org/10.1080/14613800500042109>
- Fautley, M., and Savage, J. (2011). *Cross-curricular teaching and learning in the secondary school The Arts Drama, Visual Art and Design*. Routledge.
- Fowler, A. (2014). Composing and performing in the key stage 3 classroom: A study using multi-trait, multi-method analysis. *British Journal of Music Education*, 31(1), 5-18. <https://doi.org/10.1017/S0265051713000247>
- Glăveanu, V.P, and Beghetto, R.A. (2020). Creative Experience: A Non-Standard Definition of Creativity. *Creativity Research Journal*, 33(2), 75-80. <https://doi.org/10.1080/10400419.2020.1827606>
- González, J.M. (2015). Fundamentos de la semiótica de la música. En J.M. Pozuelo *et al.* (Eds.), *De Re Poética. Homenaje al profesor D. Manuel Martínez Arnaldos* (pp.383-401). Universidad de Murcia.
- Hernández-Torrano, D., and Ibrayeva, L. (2020). Creativity and education: A bibliometric mapping of the research literature (1975–2019). *Thinking Skills and Creativity*, 35, 100625. <https://doi.org/https://doi.org/10.1016/j.tsc.2019.100625>
- Hopkins, M.T. (2015). Collaborative composing in high school string chamber music ensembles. *Journal of Research in Music Education*, 62(4), 405-424. <https://doi.org/10.1177/0022429414555135>
- Irwin, R.L., and Cosson, A. (Eds.) (2007). *A/r/tography: Rendering self through arts-based living inquiry*. Pacific Educational Press.
- Kemmis, S. (2010). Research for praxis: knowing doing. *Pedagogy, Culture & Society*, 18(1), 9-27. <https://doi.org/10.1080/14681360903556756>
- Kokotsaki, D., and Newton, D.P. (2015). Recognizing creativity in the music classroom. *International Journal of Music Education*, 33(4), 491-508. <https://doi.org/10.1177/0255761415607081>
- Lage-Gómez, C., and Cremades-Andreu, R. (2021). Group Identity in a Secondary School Classroom Constructed through Musical Creation. *Croatian Journal of Education*, 23(1), 35-61. <https://doi.org/10.15516/cje.v23i1.3824>
- Lage-Gómez, C., and Cremades-Andreu, R. (2020). Theorising 'Participatory Creativity' in Music Education: Unpacking the Whole Process at a Spanish secondary school. *Music Education Research*, 22(1), 54-67. <https://doi.org/10.1080/14613808.2019.1703922>

- Lage-Gómez, C., and Cremades-Andreu, R. (2019). Group improvisation as dialogue: Opening creative spaces in secondary music education. *Thinking Skills and Creativity*, 31, 232-242. <https://doi.org/10.1016/j.tsc.2018.12.007>
- Lapidaki, E., Rokus de Groot, R., and Stagkos, P. (2012). Comunal creativity as sociomusical practice. En G. Welch y G. McPherson (Eds.), *The Oxford Handbook of Music Education* (pp.371-378). Oxford University Press.
- Malbran, S. (2010). El modelo cross-modal aplicado a las artes temporales. En M.E. Riaño y M. Díaz (Eds.), *Voz, Cuerpo y acción. Un espacio para la música* (pp.75-82). Publican Ediciones.
- Menard, E.A. (2015). Music Composition in the High School Curriculum: A Multiple Case Study. *Journal of Research in Music Education*, 63(1), 114-136. <https://doi.org/10.1177/0022429415574310>
- Miell, D., and Littleton, K. (Eds.) (2004). *Collaborative Creativity: Contemporary Perspectives*. Free Association Books.
- Montoya, J.C. (2016). Clásicos populares gracias al cine: la banda sonora como agente generador de significados musicales. En S. Andrés (Ed.), *Clásicos populares gracias al cine: la banda sonora como agente generador de significados musicales* (pp.321-334). Ediciones Universidad de Salamanca.
- Murillo, A., Riaño, M.E., and Berbel, N. (2019). The classroom as a sounding board for sonorous creation: New architectures and technological tools to bring the art of sound to education. *Revista Electrónica de LEEME*, 43, 1-18. <https://doi.org/10.7203/LEEME.43.14007>
- Riaño, M.E., Murillo, A., and Tejada, J. (2022). Music education, creativity and technology: An exploratory study on teaching strategies and creative activities with ex novo software. *Revista Electronica Educare*, 26(1), 1-23. <https://doi.org/10.15359/ree.26-1.3>
- Ruthmann, A. (2008). Whose agency matters? Negotiating pedagogical and creative intent during composing experiences. *Research Studies in Music Education*, 30(1), 43-58. <https://doi.org/10.1177/0022429408089889>
- Savage, J., and Fautley, M. (2011). The organisation and assessment of composing at Key Stage 4 in English secondary schools. *British Journal of Music Education*, 28(2), 135-157. <https://doi.org/10.1017/S0265051711000040>
- Sawyer, R.K., and DeZutter, S. (2009). Distributed creativity: How collective creations emerge from collaboration. *Psychology of Aesthetics, Creativity, and the Arts*, 3(2), 81-92. <http://dx.doi.org/10.1037/a0013282>
- Saether, E., Mbye, A., and Shayesteh, R. (2012). Intercultural Tensions and Creativity in Music. En G. Welch y G. McPherson (Eds.), *The Oxford Handbook of Music Education* (pp.354-370). Oxford University Press.
- Seddon, F.A. (2012): Empathetic creativity in music making. En O. Odena (Ed.), *Musical Creativity: Insights from Music Education* (pp.133-147). Ashgate.

- Spence, C. (2007). Audiovisual multisensory integration, *Acoustical Science and Technology*, 28(2), 61-70. <https://doi.org/10.1250/ast.28.61>
- Tan, S., and Kelly, M. (2004). Graphic representations of short musical compositions. *Psychology of Music*, 32(2), 191-212. <https://doi.org/10.1177%2F0305735604041494>
- Tobias, E.S. (2013). Composing, songwriting, and producing: Informing popular music pedagogy. *Research Studies in Music Education*, 35(2), 213-237. <https://doi.org/10.1177/1321103X13487466>
- Veach, L.J., and Gladding, S.T. (2007). Using Creative Group Techniques in High Schools. *The Journal for Specialists in Group Work*, 32(1), 71-81. <https://doi.org/10.1080/01933920600978570>
- Wenger, E. (2002). *Comunidades de práctica*. Ediciones Paidós Ibérica.