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# Music and its Significance in Children Favourite Audiovisuals

## La música y sus significados en los audiovisuales preferidos por los niños

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## ABSTRACT
Audiovisual media are part of children´s daily life. They build and/or replace a part of the reality that is sometimes preceded. This paper is interested in one of the elements of the audiovisual binomial, the soundtrack, in order to analyse its meaning and sense from the children's point of view. The objectives are: to determine if the audiovisual media clips to which children are exposed (sound, image and all) are perceived differently; to establish the possible differences in the assessment they make when comparing the sound and image presentation modalities. Fourteen audiovisual media (movies, series, cartoons and documentaries) were identified by 115 children (10-12 years old) as preferred. Audiovisuals were edited in three modalities (sound, image, and all) and grouped into different series of three clips, which were watched in group sessions by 547 Spanish and Argentinian children (mean age: 11 years old). An Assessment Questionnaire of audiovisual clips was designed and implemented. Results showed differences in the meaning of the soundtrack in three of the five categories of the questionnaire. The significant predominance of the sound in series, documentaries and, especially, movies is highlighted. Contextual space-time elements, affective implications, feelings, and empathy as well as assessment of the experience are all perceived by means of the sound (the music).

## RESUMEN
Los audiovisuales forman parte de la vida cotidiana de la infancia, construyendo con ellos una parte de la realidad que muchas veces se anticipa y otras sustituye. Este artículo se interesa por una de las partes del binomio audiovisual, la banda sonora, con la finalidad de conocer su significado y sentido desde la propia interpretación infantil. Sus objetivos son determinar si los niños perciben de modo diferente los clips audiovisuales a los que son expuestos (sonido, imagen y todo); establecer las posibles diferencias en la valoración que realizan comparando las modalidades de presentación sonido e imagen. Se identificaron 14 audiovisuales preferidos (películas, series, dibujos animados y reportajes) por parte de 115 niños de 10 a 12 años. Fueron editados en tres modalidades (solo sonido, solo imagen y todo) y agrupados en series de tres clips, que fueron visionados en sesiones grupales por 547 niños, españoles y argentinos, con una edad media de 11 años. Se diseñó y utilizó un cuestionario de valoración de clips audiovisuales. Los resultados mostraron diferencias sobre el significado de la banda sonora en tres de las cinco categorías del cuestionario, destacando el predominio significativo del sonido en series, reportajes y, de manera destacada, en películas. Se perciben por el sonido (la música) elementos contextuales espacio-tiempo, la implicación afectiva, sentimientos y empatía así como la valoración de la experiencia.

## KEYWORDS | PALABRAS CLAVE
Childhood, soundtrack, audio-visual, cinema, television, meaning, sense, multimodal.
Infancia, bandas sonoras, audiovisual, cine, televisión, significado, sentido, multimodal.

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## 1. Introduction

### 1.1. The audiovisual binomial in the children's daily life

Eco (1972: 26) notes that culture as a whole can be better understood if it is approached from the semiotic plane. Audiovisual media today form part of an infant's daily life. Within this living environment, music and Media form an inseparable binomial. Film and television are produced industrially, and are directed to a large unknown audience, separated by age groups, but are always received individually and privately (Benjamin, 1983: 7-8). It is in this manner, individual and private, that the music develops significance and meanings with which the children interact and understand the world that surrounds them. Therefore, music from audiovisual media is similar to the functions of popular music as according to Frith (2001): "the creation of identity, the management of feelings and the organization of time". At present, children live in a world that is shown in screens, sometimes preceding or substituting what is real. From the audiovisual binomial, we are interested in the soundtrack, comprised of texts or speeches (Cohen, Manion, & Morrison, 2013), which we will approach through their modes of listening (Porta, 2014).

### 1.2. Audiovisual media tell stories and construct worlds

When reviewing the literature, different works were found that analysed audiovisual media as constructors of the infant's reality (Del-Río, Álvarez, & Del Río, 2004). Multiple authors have studied their music (Aguaded, 2010; Denora, 2000; Morley, 2003; Porta, 2007, 2011; Sloboda, 2005). In film, diverse works were also identified (Adorno, 2009; Campbell, 2010; Chion, 2013; Hauser, Tovar, & Varas-Reyes, 1969). Among the functions of music, the transmission of emotions that intervene in the tension of the events and characters is noted (Tan, Cohen, Lipscomb, & Kendall, 2013). In Spain, Fraile (2007) proposed a functional analysis of music, identifying features that were expressive and those that were significant/narrative. More specifically, children's audiovisual media tell stories and create worlds, so that they require specific treatment, with different approaches studied from different points of view. Also, Xalabarder (2006) thinks of music in a film as a narration tool. Similarly, Igartúa and Muñiz (2008) have studied the emotions provoked by psychoanalytical models, opting for open-ended questionnaires and interviews after their viewing. Lastly, Salomon, Perkins and Globerson (1992) have studied their cognitive effects and of meaning, creating approaches that are indispensable for cognitive development, psycholinguistics and communication systems. Their studies on the singularity of mental processes, produced by the media, the development of specific skills and its system of symbols, are highlighted.

### 1.3. Modes of listening

The origin of the word modes in film studies come from the dissatisfaction when isolating its elements and the need to observe it as parts of a whole (Kress & Van-Leeuwen, 2001). This approach coincides with the integrative approaches from inter-cultural studies and critical pedagogy (Hargreaves & North, 1999; McLaren & Kincheloe, 2008). As for listening, Swanwick (1991), coming from music education, has established three related modes: idiomatic, symbolic and systematic, highlighting in this research the systematic one, which explains how the musical experience is transformed into complex conceptual and analysis schemes. The third element that should be noted comes from ethnomusicology. Pelinski (2007) points to three modes of listening to the sound environment: natural listening, linked to sensation and the pre-conscious; reduced listening, a focused listening that links alert consciousness as the previous state of the analytical and conceptual functions through auditory perception; and lastly, privileged listening, a type of listening that is able to integrate emotional processes with analytical ones and the pre-conceptual perception, all of this joined to the consciousness of the musical properties of the object experienced.

### 1.4. To understand the meaning and sense of the music from audiovisual media

The habitat comprises the space where meaning and sense are initially and preferentially constructed, immersion being the most important aspect, which is constructed with what is found on the road to understanding. The organizer of this complex process is initially perception, an element that generates thought through selective attention ruled by the laws of perception: structural unity, perceptual constancy and figure-ground perception. The structure of musical comprehension and the meaning of the world of music is constructed on its base. The music from film and television that children listen to has a discursive and multimodal character. It is not a unidirectional space, it is a space of interaction created by commercial means in which a story is told with music and moving

images (Ma, 2014). Audiovisual media transport the children to a space of fiction, with characters that live a story in which they participate and understand due to the sum of its languages, producing meaning. This article aims to explore this space of interaction from the music angle. In the review of the subject, the search engines that have given form to the design of the research have mainly been territory, meaning, film and television as a space for communication (Porta, 2007); secondly, meaning and sense, as studied through Semiotics (Peirce, Bonfantini, & Grassi, 1980) and meaning (Greimas, Bardón, & Sierra, 1973; Pitt & Hargreaves, 2016); and third, its understanding, approached through Psychology and Education (Tan & al., 2013). Lastly, for its understanding, the re-structuration theories from Cognitive Psychology are taken into account. These theories, constructive in character, use molar units due to their important character, and are considered by authors such as Piaget (1975), Vygotsky (1996) and the Gestalt school (Koffka, 2013; Perls, 1969).

This contribution is extremely valuable, as it moves the load towards context, its habitat and elements of meaning that, as experienced, never appear to be separated. With this triangulation of elements, a research design is constructed, based on modes, the individual character and the use of molar units in the analysis. Starting with these principles, the initial basis of this research was created: a) to use separate versions (only sound, only image and all); b) Complete scenes and c) Search of coincidences and singularities with closed and open questions. In this article, the quantitative analysis of numerical data is presented with two objectives: 1) To determine if children perceive, in different ways, the categories that comprise the audiovisual media clips to which they are exposed. 2) To establish, in each one of the audiovisual media clips employed, the possible differences in their assessment when comparing the sound and image modalities of presentation. The starting hypothesis is that differences will be found in the children's perception as a function of the audiovisual modality presented.

> It was verified that in many occasions, music made sense by itself, many times being more significant than the image. In this study, the participants indicated that music provided them with space-time guiding elements, requiring more attention and maintaining interest. These elements are decisive in the world of fiction that the audiovisual media create, a world that would be different if the music was different. Likewise, the loss, first of interest, and later of meaning, was observed when music disappeared.

The aim of this article is to understand the meaning and sense of the children's favourite audiovisual soundtrack, after their presentation, in line with previous studies (Ma, 2014; Tan & al., 2013).

## 2. Materials and methods

### 2.1. Participants

An incidental type, non-probabilistic sampling was employed, in which a sample was selected due to the accessibility to the educational centres. 547 students participated, from which 375 were Spanish (68.6%) and 172 Argentinian (31.4%). From Spain, seven cities from three provinces participated: Castellón (31.8% of the total sample), Valencia (24.1%) and Granada (12.6%). In Argentina, the children lived in three cities from two communities: Chaco (24.1%) and Corrientes (7.3%).

According to gender, 242 were boys (44.2%) and 305 girls (55.8%), aged between 9 and 15 years old, with an average age of 11.42 years old (SD=.84).

They belonged to 22 educational centres. 72.8% (n=398) studied in public centres, 11.9% in private/public centres, and 15.4% in private centres (n=84).

As for the educational stage, 367 were enrolled in the third cycle of Primary Education (67.1%), with a greater number in sixth grade (n=321, 87.5%) and 180 were enrolled in the first cycle of Secondary Education (32.9%), main from the first year (n=160, 88.9%).

### 2.2. Instruments

Different audiovisual media clips and an associated questionnaire that the students had to complete were used as the tools for gathering information. These are described below.

#### 2.2.1. Audiovisual media clips

Initially, an exploratory study was conducted in order to establish a relationship between the films, cartoons, series and documentaries that the children aged between 10 and 12 years of age preferred. For this, 115 children participated, and they were asked what their favourite was from each of the four types of audiovisual forms. Also, their character (local, national or international) and their characteristics were determined in order to extract clips.

Once the audiovisual media and their characteristics were obtained, the most frequent ones were selected. Thus, 14 audiovisual clips were selected, of which five belonged to films ("The Croods", "The Lion King", "Oz, the great and powerful", "Titanic", "Toy Story III"), four were cartoons ("The Simpsons", "Sponge Bob", "Doraemon", "Dragon Ball Z"), four were television series ("Violetta", "La que se avecina", "Good-Luck Charlie", "iCarly"), and one was part of a documentary ("The lions of Busanga").

Each of the clips was edited into three versions: sound (S), image (I) or all (A). Then, the children from each class were subjected to a sequence comprised of three clips, each clip with a different version (S, I or A). The sequence could be, as a function of the audiovisual form, cartoons-documentary-film (sequences 01 to 12) or film-series-documentary (sequences 13-24). Table 1 shows each sequence. The first element of each clip refers to the audiovisual form, meaning, F=film, C=cartoons, S=series, D=documentary. The second element, in the case of three elements, was the number relating to the film, cartoons or series in question. Lastly, the third element (or second when there were only two) was related to the audiovisual version, meaning, S=sound, I=image, A=all.

#### 2.2.2. Questionnaire for the assessment of audiovisual clips

A questionnaire for the assessment of the audiovisual clips was designed. For the validation of the content, 14 experts from different areas participated (music, image and methods). The criteria by Barbero (2006) were used for the interjudge validation. This means that the experts were asked to show their degree of agreement with respect to the suitability of the items in each category, and later, the degree of interjudge agreement was established. For this, the mean, median, 50th percentile and interjudge dispersion (75th and 25th percentile) were used.

The final questionnaire, adapted to each audiovisual modality (S, I, A), was composed of 53 items that were grouped into five categories:

- Contextual aspects of space and time (items 1 to 7). For example, "it was daytime during the story".
- Characters and story (items 8 to 21), for example, "a character is identified".
- Musical aspects (items 22 to 31), for example "musical instruments could be heard".
- Affective implication, feelings and empathy (items 32 to 37), for example, "I would like to be in that story".
- Assessment (items 38 to 53), for example, "what was presented captured my attention".

In the first four categories, the items had dichotomous answers (Yes or No), including some open-ended questions. The last category was structured around a four-answer, Likert-type scale (Nothing, Little, A lot, Much).

A pilot test was conducted with 23 children aged 10 years old, with the aim of determining if they could understand the questionnaire by themselves. Also, the reliability of the questionnaire was calculated once the questionnaire was completed by all the participants of the study through the internal consistency Alpha of Cronbach index, obtaining a value of .972. Likewise, for the each of the audiovisual versions, we found: Sound, $\alpha$=.885; Image, $\alpha$=.858; All, $\alpha$=.934.

**Table 1. Sequence of audiovisual clips**

| Sequence | Clip 1 | Clip 2 | Clip 3 | Time |
|---|---|---|---|---|
| SEQ01 | C3I | DA | F5S | 5'58" |
| SEQ02 | C3T | DS | F5I | 5'57" |
| SEQ03 | C3S | DI | F5A | 5'57" |
| SEQ04 | C 4I | DA | F1S | 5'46" |
| SEQ05 | C 4T | DS | F1I | 5'51" |
| SEQ06 | C 4S | DI | F1A | 5'49" |
| SEQ07 | C 1I | DA | F2S | 6'31" |
| SEQ08 | C 1T | DS | F2I | 6'31" |
| SEQ09 | C1S | DI | F2A | 6'28" |
| SEQ10 | C2I | DA | F1S | 5'45" |
| SEQ11 | C2T | DS | F1I | 5'43" |
| SEQ12 | C2S | DI | F1A | 5'40" |
| SEQ13 | F1S | S3I | DA | 4'29" |
| SEQ14 | F1I | S3A | DS | 4'48" |
| SEQ15 | F1A | S3S | DI | 4'47" |
| SEQ16 | F2S | S4I | DA | 5'00" |
| SEQ17 | F2I | S4A | DS | 4'55" |
| SEQ18 | F2A | S4S | DI | 4'59" |
| SEQ19 | F3S | S1I | DA | 6'03" |
| SEQ20 | F3I | S1A | DS | 6'36" |
| SEQ21 | F3A | S1S | DI | 6'36" |
| SEQ22 | F4S | S2I | DA | 4'59" |
| SEQ23 | F4I | S2A | DS | 5'02" |
| SEQ24 | f4a | S2S | DI | 5'02" |

### 2.3. Procedure

#### 2.3.1. Gathering of information

Authorization was solicited from the participating educational centres. Once obtained, an hour of class was selected with the aim of briefly presenting the students the object of the study as well as explaining to them what it entailed. Each class group had been assigned with a sequence composed of three clips. When each clip ended, a questionnaire was completed as a function of the audiovisual modality within which they had been presented (S, I, A).

#### 2.3.2. Statistical analysis of data

While the items from the first four answer categories of the questionnaire were qualitative, nominal and dichotomous, the items of the fifth category were ordinal (due to the use of the Likert-type scale). A summary of the items of each of the categories was conducted in order to transform the dependent variables (the five categories of the questionnaire) into discrete quantitative variables.

Afterwards, the distribution of the data was analysed to determine the type of statistical tests to be used (parametric or non-parametric). Therefore, the Kolmogorov-Smirnov test was applied, which was found to be significant for the five categories of the questionnaire $p<.001$, so the data did not have a normal distribution. Also, their homoscedasticity or homogeneity of variances through Levene's test for the comparison groups (S, I, A) was calculated. The null hypothesis was not accepted in the case of the contextual aspects space and time, $F(2, 1638)=6.003$, $p=.003$ and musical aspects, $F(2, 1638)=14.193$, $p=.000$.

Due to what has been described above, a non-parametric test was conducted (Hollander, Wolfe, & Chicken, 2014). Hence, for the analysis of the three audiovisual modalities presented, a Kruskal-Wallis H-test for K independent variables was used. Also, the Mann-Whitney U independent test for 2 samples was used for each of the two versions, i.e. Sound and Image, Sound and All and in third place, Image vs All.

In order to answer the second objective of the study, non-parametric tests were used as well. The Mann-Whitney U test was used for comparing each audiovisual clip of the modalities Sound as opposed to Image.

## 3. Analysis and results

The descriptive frequencies are specified in this section for each audiovisual media employed as well as the sequence of the clips as a function of genre and audiovisual modality. In respect of this, the frequency and percent of the answer for each one of these clips were the following: "The Croods": 160 (9.8%); "The Lion King": 134 (8.2%); "Oz, the great and powerful": 72 (4.4%); "Titanic": 54 (3.3%); "Toy Story III": 128 (7.8%); "The Simpsons": 71 (4.3%); "Sponge Bob": 49 (3.0%); "Doraemon": 128 (7.8%); "Dragon Ball Z": 52 (3.2%); "Violetta": 72 (4.4%); "La que se avecina": 53 (3.2%); "Good Luck Charlie": 60 (3.7%); "iCarlie": 61 (3.7%); "The lions of Busanga": 547 (33.3%).

As for the audiovisual form of the clips, 547 were films (33.3%, 301 were cartoons (1.3%), 246 were series (15.0%) and 547 documentaries (33.3%). Also, as each one of the clips could be presented in one of the three audiovisual modalities planned, the frequency of each of them (S, I, A) was the same in every case, $n=547$ (33.3%).

The frequencies and percentages of each audiovisual sequence, according to audiovisual genre and modality, were 60 (3.7%) for SEQ01, SEQ04, SEQ07, SEQ08, SEQ12, SEQ13, SEQ14 and SEQ15. For the sequences SEQ02 and SEQ11 it was 75 (4.6%). In SEQ03=249 (15.2%); SEQ05=57 (3.5%); SEQ06=39 (2.4%); SEQ09=96 (5.9%); SEQ10=12 (.7%); SEQ16=93 (5.7%); SEQ17=42 (2.6%); SEQ18=48 (2.9%); SEQ19=66 (4.0%); SEQ20=78 (4.8%); SEQ21=72 (4.4%); SEQ22=51 (3.1%); SEQ23=69 (4.2%); SEQ24=39 (2.4%).

With the aim of determining if the children perceived the categories that composed the audiovisual clips to which they were exposed, differently as a function of the modality of presentation (S, I, A), a Kruskal-Wallis H test was used for the five categories of the assessment questionnaire of the audiovisual media clips. The results brought to light the differences, according to the audiovisual modality, in the categories of the contextual aspects space and time, $\chi2=49.818$, $p=.000$; musical aspects, $\chi2=877.882$, $p=.000$; and assessment, $\chi2=10.060$, $p=.007$.

Along with the statistics analysis, the Mann-Whitney U test was used to compare, in the three categories that differed as a function of the modality presented, each pair of versions. Then, in the category Contextual aspects of space and time, the lowest scores reached were for the modality Image, so that it differed significantly from the modality sound, $U=115362.000$, $p=.000$, as well as the all modality, $U=24.811$, $p=.000$.

In the category musical aspects, all the modalities differed among them, meaning, sound as compared to image, $U=23378.500$, $p=.000$; sound as compared to all $U=115543.000$, $p=.000$; and image as compared to all,

U=683.351, p=.000. In this way, from high to low score, the following modalities were placed: All, followed by Sound, and in last place, Image.

As for the category Assessment, the modality with the highest punctuations, was All with differences found between this modality and Sound, U= 133426.500, p=.002; as well as Image, U=4.107, p=.043.

On the other hand, to establish, within each of the audiovisual clips employed, the possible differences when comparing the modalities of presentation S vs I, Table 2 shows the results for the category Contextual aspects of space and time.

**Table 2. Contextual aspects of space and time** (***p<.001, **p<.01, *p<.05)

| Audiovisual genre | Audiovisual clip | Audiovisual modality (Average range) | | U | p |
|---|---|---|---|---|---|
| | | Sound | Image | | |
| Film | The Croods | 56.65 | 52.15 | 1269.500 | .435 |
| | The Lion King | 49.67 | 34.51 | 578.000 | .004** |
| | Oz, the great and powerful | 26.89 | 22.48 | 233.500 | .225 |
| | Titanic | 27.12 | 16.67 | 100.000 | .003** |
| | Toy Story III | 21.63 | 23.16 | 221.000 | .668 |
| Cartoons | The Simpsons | 24.25 | 28.95 | 248.000 | .254 |
| | Sponge Bob | 12.15 | 14.25 | 33.000 | .557 |
| | Doraemon | 55.57 | 37.20 | 534.000 | .007** |
| | Dragon Ball Z | 21.35 | 14.18 | 73.500 | .024* |
| Series | Violetta | 27.79 | 18.82 | 161.000 | .011* |
| | La que se avecina | 18.54 | 13.18 | 71.000 | .048* |
| | Good luck Charlie | 16.75 | 24.25 | 125.000 | .030* |
| | iCarlie | 19.88 | 26.13 | 182.000 | .108 |
| Documentaries | The lions of Busanga | 231.63 | 170.05 | 13049.500 | .000*** |

Differences were found in eight of the fourteen clips, which belonged to the four audiovisual forms utilised. In seven of them the contextual aspects of space and time for the modality S was higher than for I. These were specifically "The Lion King", "Titanic", "Doraemon", "Dragon Ball Z", "Violetta", "La que se avecina" and "The lions of Busanga". The modality I was only higher than S in the series "Good luck Charlie".

As for the category of characters and story, Table 3 shows the results for the two modalities of presentation analysed.

In this category, the differences between S and I were found in five clips, found in the audiovisual genres of films, cartoons and documentaries. More specifically, the scoring of the characters and history was higher in the modality I as compared to S ("Toy Story III", "Dragon Ball Z" and "The lions of Busanga").

As for the musical aspects (Table 4), the differences were significant in all the audiovisual media clips when analyzing the modality S as compared to I.

**Table 3. Characters and story** (***p<.001, **p<.01, *p<.05)

| Audiovisual genre | Audiovisual clip | Audiovisual modality (Average range) | | U | p |
|---|---|---|---|---|---|
| | | Sound | Image | | |
| Film | The Croods | 52.84 | 54.81 | 1335.000 | .742 |
| | The Lion King | 44.94 | 41.40 | 819.000 | .503 |
| | Oz, the great and powerful | 33.68 | 16.73 | 84.000 | .000*** |
| | Titanic | 19.68 | 21.94 | 181.500 | .542 |
| | Toy Story III | 18.40 | 26.68 | 158.000 | .032* |
| Cartoons | The Simpsons | 26.83 | 24.61 | 277.500 | .598 |
| | Sponge Bob | 13.78 | 6.13 | 14.500 | .041* |
| | Doraemon | 54.27 | 42.60 | 642.000 | .109 |
| | Dragon Ball Z | 11.46 | 20.60 | 58.000 | .006** |
| Series | Violetta | 26.31 | 20.43 | 196.500 | .126 |
| | La que se avecina | 17.15 | 14.24 | 89.000 | .346 |
| | Good luck Charlie | 18.05 | 22.95 | 151.000 | .177 |
| | iCarlie | 19.91 | 26.11 | 182.500 | .133 |
| Documentaries | The lions of Busanga | 176.19 | 213.19 | 15427.500 | .001** |

It is in this category, due to the intrinsic character of what it measures (musical aspects), that the supremacy of the modality S as compared to I is found in all the audiovisual media clips used.

The category Affective implication, feelings and empathy is shown in Table 5 (see next page)..

The differences between the modalities of presentation were found in the films and cartoons audiovisual forms, without differences being found in series and documentaries. Within the films "The Croods" and "Titanic", the category affective implication, feelings and empathy were higher in the modality S as compared to I, while in "Toy Story III", it was the opposite. In the cartoons, in "Doraemon" as well as in "Dragon Ball Z", modality S obtained higher scores than I. Lastly, Table 6 shows the answers from the category Assessment from each audiovisual clip.

Except for the audiovisual genre documentaries, differences were found in the rest, according to the audiovisual modality. Therefore in the films "The Croods" and "Toy Story III", I was better assessed as compared to S, while

in "The Lion King" modality S received a higher score. Within the cartoons, "Doraemon" was better assessed in modality S than I. Lastly, in the series "Violetta", modality S also scored higher.

**Table 4. Musical aspects** (***p<.001, **p<.01)

| Audiovisual genre | Audiovisual clip | Audiovisual modality (Average range) | | U | p |
|---|---|---|---|---|---|
| | | Sound | Image | | |
| Film | The Croods | 68.74 | 43.71 | 737.500 | .000*** |
| | The Lion King | 60.90 | 18.14 | 5.000 | .000*** |
| | Oz, the great and powerful | 35.50 | 15.19 | 44.000 | .000*** |
| | Titanic | 31.74 | 13.40 | 21.500 | .000*** |
| | Toy Story III | 35.50 | 13.00 | 72.00 | .000*** |
| Cartoons | The Simpsons | 33.36 | 13.61 | 68.500 | .000*** |
| | Sponge Bob | 14.00 | 5.00 | 10.000 | .008** |
| | Doraemon | 61.38 | 13.08 | 51.500 | .000*** |
| | Dragon Ball Z | 24.65 | 12.03 | 30.500 | .000*** |
| Series | Violetta | 32.00 | 14.23 | 60.000 | .000*** |
| | La que se avecina | 23.35 | 9.50 | 8.500 | .000*** |
| | Good luck Charlie | 29.00 | 12.00 | 30.000 | .000*** |
| | iCarlie | 39.44 | 16.03 | 1.000 | .000*** |
| Documentaries | The lions of Busanga | 304.20 | 113.57 | 567.000 | .000*** |

## 4. Discussion and conclusions

In this work, the effects of the music from audiovisual media in children were explored, creating a research design that used the modes of listening as the constructive elements (Porta, 2014) and the principles of post-structuralism on the meaning (Vigotsky, 1996), with the aim of understanding from its interpretation. The experiencing of different audiovisual media in three different versions (only sound, only image and all) has resulted in a detailed analysis that has confirmed the starting hypothesis. In general terms, it can be confirmed that the soundtrack offers meaning and sense to the narrative as well as the multimedia experience. A transversal tour shows the importance of the sound in their favourite audiovisual media. As an answer to the objectives posed, the audiovisual modality of presentation of the clips was perceived differently by the participants in three of the five categories of analysis. More specifically, it affected the perception of the Contextual aspects of space and time, so that the image alone was not enough, with these aspects being understood better when only the sound or the complete version, were presented. Likewise, the Musical aspects were better perceived by the participants, in first place, when the complete audiovisual was presented; in second place when it was only the sound; and in third place, with the modality Image. Lastly, in the category Assessment, the participants had a better opinion when they counted with all the information, meaning, when the modality of presentation was All.

It is remarkable that there were no differences, as a function of the modality of presentation, in the categories Characters and story and Affective implication, feelings and empathy.

On the other hand, when thoroughly analysing each audiovisual clip, the responses of the subjects according to the modality sound and image, in the category "contextual aspects of space and time", resulted in statistically-significant differences in the four audiovisual forms used, meaning, in the films, cartoons, series and documentaries. As for the films, in "The Lion King" as well as in "Titanic", the scores were higher in the audiovisual modality Sound as compared to Image. Within the cartoons, "Doraemon" and "Dragon Ball Z" showed the same tendency that the previous clips. Also, in three of the four Series shown, there were differences as a function of the audiovisual modality. More specifically, in "Violetta" and "La que se avecina", the assessment was higher with the modality sound; while in the series "Good Luck Charlie", the higher scores were obtained with the modality Image. Lastly, the greater score in the modality of presentation Sound within the audiovisual form documentaries, was notable.

**Table 5. Affective implication, feelings and empathy** (***p<.001, **p<.01, *p<.05)

| Audiovisual genre | Audiovisual media clip | Audiovisual modality (Average range) | | U | p |
|---|---|---|---|---|---|
| | | Sound | Image | | |
| Film | The Croods | 40.85 | 63.18 | 807.500 | .000*** |
| | The Lion King | 42.06 | 45.60 | 819.000 | .508 |
| | Oz, the great and powerful | 25.82 | 23.38 | 257.000 | .531 |
| | Titanic | 25.91 | 17.52 | 120.500 | .020* |
| | Toy Story III | 15.38 | 29.10 | 97.500 | .000*** |
| Cartoons | The Simpsons | 28.17 | 22.34 | 234.500 | .166 |
| | Sponge Bob | 12.10 | 14.50 | 32.000 | .520 |
| | Doraemon | 56.09 | 35.03 | 490.500 | .003** |
| | Dragon Ball Z | 23.46 | 12.80 | 46.000 | .001** |
| Series | Violetta | 20.27 | 27.02 | 186.500 | .078 |
| | La que se avecina | 18.00 | 13.59 | 78.000 | .160 |
| | Good luck Charlie | 23.58 | 17.43 | 138.500 | .088 |
| | iCarlie | 21.38 | 25.35 | 206.000 | .330 |
| Documentaries | The lions of Busanga | 202.58 | 192.66 | 18046.500 | .378 |

On its part, in the category characters and story, differences were obtained according to the audiovisual modality

employed in the different audiovisual genres, except for the genre Series. More specifically, in the genre of films, the assessment by the children was higher in the modality of Sound for "Oz, the great and powerful" while in "Toy Story III", the best assessment was found in the modality of Image. Similar results were found in the genre of cartoons, where in "Sponge Bob" the modality of Sound was prioritized, while in "Dragon Ball Z", Image was prioritized. Also, in the genre Documentaries, the Image predominated over Sound.

**Table 6. Assessment (***p<.001, *p<.05)**

| Audiovisual genre | Audiovisual clip | Audiovisual modality (Average range) | | U | p |
|---|---|---|---|---|---|
| | | Sound | Image | | |
| Film | The Croods | 45.99 | 59.60 | 1033.500 | .025* |
| | The Lion King | 48.77 | 35.81 | 623.500 | .018* |
| | Oz, the great and powerful | 21.86 | 26.73 | 228.000 | .229 |
| | Titanic | 20.53 | 21.33 | 196.000 | .832 |
| | Toy Story III | 12.10 | 31.72 | 32.000 | .000*** |
| Cartoons | The Simpsons | 23.94 | 29.47 | 238.000 | .197 |
| | Sponge Bob | 12.78 | 11.13 | 34.500 | .668 |
| | Doraemon | 58.75 | 23.98 | 269.500 | .000*** |
| | Dragon Ball Z | 18.81 | 15.83 | 106.500 | .385 |
| Series | Violetta | 27.17 | 19.50 | 176.000 | .049* |
| | La que se avecina | 17.38 | 14.06 | 86.000 | .303 |
| | Good luck Charlie | 20.80 | 20.20 | 194.000 | .870 |
| | iCarlie | 20.72 | 25.69 | 195.500 | .237 |
| Documentaries | The lions of Busanga | 184.93 | 206.39 | 1,6930.500 | .063 |

In the category of musical aspects, as expected, there were differences in favour of sound in all the audiovisual media clips used in audiovisual genre.

Continuing with the category of affective implication, feelings and empathy, there were differences in the forms of films and cartoons. In the films "The Croods" and "Toy Story III", the scores were higher for the modality Image, while in "Titanic" and "The Lion King", these were found in the Sound modality. Conversely, in the cartoons "Doraemon" and "Dragon Ball Z", the assessment was higher in the modality of Sound.

In the last category, Assessment, there were differences between Sound and Image in the genres of films, cartoons and series. Within films, in "The Croods" and "Toy Story III", there were higher assessments in the modality Image. However, in "The Lion King", the scores were higher for Sound. In the cartoons "Doraemon" and in the series "Violetta", the audiovisual modality of Sound also predominated.

This research has allowed for a better understanding of the meaning and sense of the music from audiovisual media with the study of their component in molar units of meaning through complete scenes from their favourite audiovisual media. It was verified that in many occasions, music made sense by itself, many times being more significant than the image. In this study, the participants indicated that music provided them with space-time guiding elements, requiring more attention and maintaining interest. These elements are decisive in the world of fiction that the audiovisual media create, a world that would be different if the music was different. Likewise, the loss, first of interest, and later of meaning, was observed when music disappeared. The importance of sound shows its superiority in half of the audiovisual media heard, and in three of the five films ("The Lion King", "Titanic" and "Oz, the great and powerful"), two series ("Violetta" and "La que se avecina") and three cartoons ("Doraemon", "Dragon Ball Z" and "Sponge Bob"). In the case of the films, it should be noted that the soundtracks that were better assessed by the participants, due to their meaning and sense in the audiovisual narrative, were also given prizes by the industry of film and music. This is the case for "The Lion King" (1994, a Grammy and two Oscars for best soundtrack and song) and "Titanic" (1997, two Oscars for best soundtrack and song, a Grammy for best song). The results from these films surpassed in Image in the contextual categories of space and time, affective implication, feelings and empathy, and Assessment of the audiovisual experience.

Among the limitations of the study, it was necessary to show that the distribution of the participants was not the same as a function of the country of origin, and the audiovisual sequences were not shown in the same proportion.

The research line began contributed to the study of the daily life of children, helping to understand the context and its repercussions in education (Pitt & Hargreaves, 2016; Tan & al., 2013). This work has tried to show the road that point to education, in general as well as musical, demanding attention towards a high-impact musical environment with which its music contributes to the development of heroes, scenarios and values with a clear growing trend in a world that is increasingly viewed through the screens.

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