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Development of multimodal literacy through wordless albums for pupils in teacher training in primary education

Development of Multimodal Literacy Through Wordless Albums for Learners in Primary Education Teacher Training

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Summary

In 2023, the Primary Education curriculum points out the need to create learning situations that include multimodal texts. The picture book, as multimodal reading, is a resource for this stage and requires decoding skills that include understanding the image and its relationship with the written text. The general objective of the study is to analyse the usefulness of a didactic sequence based on the writing of an accompanying text for the wordless album, Suzy Lee's Wave, in teacher training for the Primary Education Teacher Training Degree. A total of 114 students participated during the 2022-23 academic year, answering two validated questionnaires made up of seventeen items on topics related to the importance of the semiotic analysis of the album, with measurements before and after the intervention. In addition, data are collected after the didactic intervention on eight items related to learning from the sequence. The quantitative analysis shows statistically significant differences ($p < .01$) that are qualified by the effect size. These differences are more evident in the general questions on visual literacy, with a high effect on the items on semiotic analysis. In addition, the results of the didactic sequence do not show significant differences and consolidate the importance of this practice in reading education. We conclude by highlighting the didactic potential of the wordless album in the learning and analysis of the visual code of these multimodal productions.

Keywords: picture book; visual literacy; writing skills; teacher training; reading comprehension.

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Resumen

En 2023, el currículo de Educación Primaria señala la necesidad de crear situaciones de aprendizaje que incluyan textos multimodales. El álbum ilustrado, como lectura multimodal, es un recurso de esta etapa y precisa de habilidades de descodificación que incluyan la comprensión de la imagen y su relación con el texto escrito. El objetivo general del estudio es analizar la utilidad de una secuencia didáctica basada en la escritura de un texto de acompañamiento para el álbum sin palabras, *La Ola* de Suzy Lee, en la formación docente en el Grado en Maestro en Educación Primaria. Participan 114 estudiantes durante el curso 2022-23 que responden a dos cuestionarios validados compuestos por diecisiete ítems sobre temas relacionados con la importancia del análisis semiótico del álbum, con medidas antes y después de la intervención. Además, se recogen datos después de la intervención didáctica sobre ocho ítems relacionados con los aprendizajes realizados a partir de la secuencia. El análisis cuantitativo muestra diferencias estadísticamente significativas ($p < .01$) que se matizan al comprobar el tamaño del efecto. Estas diferencias son más evidentes en las cuestiones generales sobre la alfabetización visual, con un efecto elevado en los ítems sobre el análisis semiótico. Adicionalmente, los resultados de la secuencia didáctica no muestran diferencias significativas y consolidan la importancia de esta práctica en la formación lectora. Se concluye destacando el potencial didáctico del álbum sin palabras en el aprendizaje y en el análisis del código visual de estas producciones multimodales. **Palabras clave:** álbum ilustrado; alfabetización visual; habilidades de escritura; formación docente; comprensión lectora

Introduction and objectives

This research seeks to recognise the relevance of the analysis of visual narrative in teacher training, specifically in the area of Language and Literature Didactics. This interest is linked to the concern for the reading habits of students in training (Díaz-Díaz et al., 2022), stressing the importance of the development of metacognitive skills. These contents are produced in a social and cultural context where the analysis of multimodal communication allows the consideration of the different modes that affect the need for a pedagogy that brings this learning to the classroom in an interdisciplinary way (Serafini and Gee, 2017). The relevance of these multiple literacies (New London Group, 1996) also has a bearing on the educational importance of bringing students closer to the ways in which meanings are constructed from the interrelation of the different modes (linguistic, visual, spatial, auditory and gestural). These issues are increasingly evident in the formulation of educational laws such as the recent *Organic Law 3/2020, of 29 December, which modifies Organic Law 2/2006, of 3 May, on Education*. Article 19 indicates the need for reading promotion to include literacy in different media, languages and technologies. The interest in the development of this competence is to be found in the Primary Education curriculum in *Royal Decree 157/2022 of 1 March, which establishes the organisation and minimum teaching of Primary Education*, where the Competence in Linguistic Communication includes among its specific competences the concept of multimodality applied to different micro-skills (oral and written): comprehension, expression, interaction and mediation. Similarly, multimodality is reflected in the development of curricula for Primary Education in different Autonomous Communities such as Madrid, Catalonia,

Galicia and the Valencian Community. Thus, the objective of reading comprehension also covers multimodal texts from the earliest stages and is structured on the basis of progress at different levels: literal, inferential and critical.

In this context, the album book (hereafter album) is one of the most widely used multimodal texts in literary education, whose educational potential and thematic diversity can be used at different stages (Ommundsen et al., 2022). In the analysis of this type of book, Serafini and Reid (2022) note the interest in its study from different perspectives: literary, semiotic and artistic. This type of graphic narrative is defined as a "total design" (Bader 1976, p. 1), in which one of the key aspects lies in the creation of meanings in the different relations of interdependence of the textual and visual modes. Among the approaches to the study of the relations between text and image, the contributions of Nikolajeva and Scott (2001) stand out, in which this process of intermodality requires different challenges for the interpretation of the reader's construction of meaning. In a simplified way, Colomer et al. (2018) point out three types of relationships in which both codes (text and image) converge and generate different interpretative spaces: *redundancy* (both offer the same information), *complementarity* (each mode provides information on a narrative aspect) and *disjunction* (there is a contradiction between the two). The interpretative space with which text and image can be related favours dialogue in classroom teaching mediation, which should promote the construction of different interpretations by students as a democratic space for interaction (Beauvais, 2015).

This question becomes even more relevant within this type of visual narratives such as wordless albums, whose research interest has been growing in the last decade (Martínez-Carratalá, 2022). Bosch (2015) defines this type of albums as "a narrative of sequential still and printed images, anchored in the structure of the book, whose unit of fragmentation is the page, the illustration is primordial and the text is underlying" (p. 16). This precision about the text, as implicit in the visual sequencing, opens up more space for literary mediation by leaving all the room for the construction of meaning for the reader. Within the different educational practices, dialogic readings based on this type of albums stand out (Colón and Tabernero-Sala, 2018; Grolig et al., 2020) that emphasise the relevance of the aesthetics of the reception of these visual narratives. Furthermore, the incorporation of elements of semiotic analysis in teacher training is necessary for the critical assessment of this dimension in the readings that will be incorporated into the classroom in their future teaching work and can be considered a pending subject (Gomes-Franco-e-Silva, 2019).

Furthermore, these questions about the narrative of a multimodal text such as the album show the importance of broadening the concept of reading comprehension and its incorporation into educational curricula (Unsworth, 2014; Serafini, 2015; Watts-Taffe, 2022). The process of constructing meaning from reading, in general terms, requires an improvement in reading comprehension and competence in order to favour this progress between the literal, inferential and critical levels. One of the models interested in this conceptualisation of the processes involved in reading comprehension is the Direct and Inferential Mediation Model (DIME) proposed by Cromley and Azevedo (2007), also analysed by Martínez-Cubelos and Ripoll-Salceda (2022), which extends decoding tasks and vocabulary knowledge. Among the different processes that affect reading comprehension, prior knowledge and comprehension strategies are also important,

which, together with the previous elements, activate inferential skills. These precisions related to the written text have a point of connection with the reading process of wordless albums (Arizpe et al., 2014). In this process of reading a narrative sequenced in images, the focus is on two main aspects: the construction of the objective meaning of the work and the subjective interpretation of the reader. In order for these processes to take place, the reading process is based on the passage through four categories: referential, compositional, intertextual and personal. Firstly, referring to the objective level of analysis, the referential is centred on basic analytical aspects and would connect with the conventional models of decoding. This level in the process of reading reception of a multimodal text is incomplete without the capacity for compositional analysis of the visual discourse. Those referring to the construction of subjective meanings are the intertextual category which is understood from a broader perspective and encompasses prior knowledge, identification and relationship with other texts or iconic referents as formulated by Bosch (2022) with the term *intericonicity*. Applied to the DIME model, this type of image reading also requires a metalanguage to decode the visual narrative, prior knowledge and comprehension strategies that require a careful reading of the visual code so that inferential skills in the construction of meanings favour correct reading comprehension.

The contributions of the semiotic analysis of the album by Painter et al. (2013) are relevant, adopting the precisions of visual grammar (Kress and van Leeuwen, 2006) to the characteristics of the visual narratives of album reading. This model (Cañamares-Torrijos and Moya-Guijarro, 2019; Cañamares-Torrijos, 2021) focuses on the analysis of the interpersonal function of visual language through the way in which characters are represented and the different ways of interpellating readers through the systems of focalisation, social distance and attitude. It should be noted that the way in which visual resources are arranged, as well as the different options for the composition of the visual space, the style and colour used in the illustrations also provoke different degrees of empathy with the reader and where the cognitivist perspective has also shown its interest in the album (Nikolajeva, 2013).

The wordless album should be considered an educational resource with an integrating and transversal capacity (Colón-Castillo, 2023, p. 17) for the development of different skills (communicative, social, cognitive...) and whose research interest should be expanded with studies related to the beliefs and attitudes of mediators about this type of books and visual discourse. This work focuses on this line and on the knowledge acquired by university students in Primary Education when carrying out a didactic sequence focused on multimodal literacy (Martínez-Carratalá and Rovira-Collado, 2022). Thus, the general objective is to analyse the usefulness of a didactic sequence based on the writing of an accompanying text for the wordless album. This is divided into two specific objectives: the first objective is to identify the beliefs and knowledge of students in training about the importance of the multimodal analysis of the album. Secondly, to observe the perception of their learning from a didactic proposal of creative writing with a wordless album.

Consequently, the null hypothesis of the study is formulated as follows: there are no statistically significant differences in learning multimodal analysis when applying a creative writing didactic sequence based on a wordless album.

Method

Population and Sample

This research was carried out in the Bachelor's Degree in Primary Education at the University of Alicante, within the fourth year subject *Didactics of Reading and Writing* during the academic year 2022-2023. Table 1 shows the characteristics of the student body (114 participants). There is a greater presence of female students (67.54% of the sample) and an age range between 17 and 22 years old (76.32%).

Table 1

Demographic characteristics of the sample studied.

Age	Number	Woman	Man	Other options
Between 17 and 22 years old	87	62	24	1
Between 23 and 30 years old	21	10	10	1
Between 31 and 40 years old	5	4	1	0
More than 40 years	1	1	0	0

Instrument

The measurement instrument is an *ad hoc* questionnaire using *Google Forms*. Intra-subject quantitative data analysis is performed by repeated measures comparison (pretest and posttest) with *Student's t-test* for related samples. The questionnaire was validated by expert judgement confirming the adequacy of the dimensions, the sufficiency of items per dimension and the clarity, coherence and relevance of each item on a scale of 1 to 4. The reliability obtained in the first measure is adequate (Cronbach's alpha, .919), being slightly higher in the second (.922). Excel was used for data collection and SPSS.26 for statistical processing of the questionnaire. An 11-point Likert scale ranging from 0 to 10 points was used, with 0 being the lowest value and representing that the participant strongly disagrees with the statement, 5 being neutral and 10 being the highest value and representing that they strongly agree with the statement. The questionnaire incorporates eight additional questions after the completion of the didactic sequence which are repeated at the end of the course to find out whether this perception is maintained.

The questionnaire was administered to the sample in three measurements and consists of a total of 17 items. The first twelve statements relate to the trainees' beliefs and knowledge about the importance of visual literacy and the semiotic analysis of the visual code. Similarly, the final five statements relate to their beliefs about the communicative and educational potential of the wordless album. The questionnaire is available online [<https://forms.gle/FfbURUEd78Mqt7f9A>] and table 2 lists the items:

Table 2

Set of items related to visual literacy and semiotic analysis.

Item	Question
C01	Visual literacy is central to my training as a literary mediator.
C02	The analysis of the composition of the image is fundamental in the evaluation of the album book.
C03	I have received sufficient training to analyse the visual code in the album book.
C04	I identify the point of view of the characters represented in the different illustrations of an album.
C05	I differentiate the eye contact options of the characters represented in the different illustrations of an album.
C06	I identify the type of plan used in the different illustrations of an album.
C07	I identify the type of approach used in the different illustrations in an album.
C08	I differentiate the style of drawing used in the different illustrations in an album.
C09	I identify the composition of the visual space in the different illustrations of an album.
C10	I recognise the narrative importance of the colour used in the different illustrations of an album.
C11	I recognise the importance of typography in the text of an album.
C12	I recognise the narrative importance of the central fold in the reading of an album.
C13	I consider wordless albums to be an essential type of album in literary education.
C14	I consider that the training I have received allows me to evaluate the albums without words.
C15	I think I will incorporate wordless albums into my future teaching.
C16	I consider wordless albums to be a type of reading that requires literary mediation.
C17	I believe that wordless albums enhance visual literacy in teacher education.

These items are formulated on the basis of the theoretical review on semiotic analysis and the wordless album. Questions C04 to C10 build on Painter et al. (2013) by analysing the system of interactive relations in the visual mode, the composition of the visual space, the importance of the style of the drawings and the colour used. These issues are relevant to the way in which the communicative relationship between the characters depicted and the reader is generated. The focalisation system refers to two issues: the point of view (C04) and the eye contact of the characters depicted (C05). Regarding the point of view, the perspective can be inscribed mediated, we see the events from the characters' backs, or inferred (we see the events from the eyes of the represented character). In the case of unmediated perspective, we contemplate the events as spectators. In reference to visual contact, the images can be of supply (they address another point in the visual narrative and the reader is a spectator) or of demand (they directly question the reader with their gaze).

Item C06 focuses on the social distance between the character depicted and the reader depending on the type of shot used in the image. If a close-up is used, this type of image

creates a personal proximity to the reader, whereas a general shot proposes a greater distance from the person depicted. C07 refers to the angulation and the connotations with the attitude with which the characters represented are presented to the reader. In this case, horizontal angles represent a greater involvement of the reader if they are frontal, while if they are oblique, they promote greater detachment. Finally, the vertical angles are used to place the characters represented in different power relations with respect to the reader: superiority (sharp angles), equality (horizontal) and inferiority (oblique).

Regarding C08, Painter et al. (2013, p. 34) distinguish three types of illustrations (minimalist, generic and naturalistic) that provoke different degrees of reader participation and different degrees of emotional distancing. In the case of a minimalist style, a greater emotional and appreciative distance is produced as opposed to a greater empathy and recognition in the generic ones, which reach a greater degree of identification in the naturalistic ones. Similarly, item C09 refers to the composition of the visual space and the use of frames in illustrations in which the use of these resources to frame the image generates an experiential barrier between the reader and the situation represented. Questions C11 and C12 refer to different elements that also affect semiotic analysis such as typography (Serafini and Clausen, 2012) and the material design of the book as an object (Veryeri-Alaca, 2018) with potential for the construction of narrative meaning. In this sense, it is worth remembering that all the elements that constitute the design of the album (text, image, material format and sequentiality) have communicative and meaning-making potential in reading. In this sense, the question referring to the central fold with narrative value is of particular interest in the material construction (Lambert, 2018). C13 to C17 relate to students' perceptions of different issues related to the wordless album and the importance of these narratives for their future teaching work. Table 3 highlights eight questions related to the didactic sequence (DS) and their perception of the learning that took place. It should be noted that these data are collected after the intervention (post) and at the end of the teaching period (recall) in order to compare the samples.

Table 3

Set of items related to the assessment of the didactic sequence.

Item	Question
SD01	I consider that the training I have received has developed my creativity by writing accompanying texts from a wordless album.
SD02	I believe that wordless albums do not need an accompanying text.
SD03	I think that writing a text for a wordless album has allowed me to appreciate the relationship between text and image.
SD04	I consider that writing a text for a wordless album has allowed me to learn the importance of the text in the album.
SD05	I think that writing a text for an album without words has allowed me to learn the importance of the image in the album.
SD06	I consider that writing a text for a wordless album has allowed me to learn about the importance of the material dimensions in the album.

- SD07** I think that writing a text for a wordless album has allowed me to learn the importance of the sequentiality of the images in the album.
- SD08** I believe that writing a text for a wordless album has allowed me to identify the dimensions of analysis in the album.
-

These items refer to the evaluation of the practice in the improvement of their creativity (SD01) and the learning of the elements that make up the album such as writing conditioned to the different relationships between text and image (SD03), the peculiarities of the text to generate different interpretative spaces (SD04) and the image (SD05). In this case, they are supported by presentations and narrations during the sessions in which works with the capacity to generate visual metaphors between text and image (Wolfenbarger and Sipe, 2007) are presented and analysed, as is the case of the album *The Birds* (Zullo, 2012) illustrated by Albertine (winner of the Hans Christian Andersen Prize in 2020). In addition to the relations of bimodality, the rest of the semiotic elements with influence in the construction of meanings are included, such as the material dimensions (SD06) and sequentiality as a semiotic mode (SD07) and the globality of these (SD08). A relevant item for this study is SD02, in which we want to know whether this practice reinforces the importance of the visual code as narrative elements or whether, on the contrary, they understand that the absence of text in an album without words can detract from the value of the work. These items have been introduced in the questionnaire after the didactic sequence (post).

Data collection and analysis procedure

This research is an exploratory study with quantitative analysis and experimental design using a repeated measures study (before and after). In the research design, two moments for data collection are distinguished. Firstly, the analysis of knowledge about specific aspects of multimodal analysis by means of a questionnaire carried out before and after the implementation of the didactic intervention. Secondly, their perception of the learning achieved thanks to the didactic sequence after its implementation and at the end of the teaching period with eight items using the same scale. The sample is non-probabilistic (of convenience) as it corresponds to the students enrolled in three different groups of the subject *Didactics of Reading and Writing* during the academic year 2022/23.

The didactic sequence is made up of different phases. First of all, the students carry out the first questionnaire to identify their prior knowledge related to the analysis of the visual code and their knowledge related to the wordless album. The students' first task focuses on writing an accompanying text for the wordless album *The Wave* (2011) by Suzy Lee, which was awarded the Hans Christian Andersen Prize for illustration in 2022. This album is part of a series of titles called *The Boundary Trilogy* (Lee, 2014) in which the central fold has a special narrative significance by differentiating on each side of the page two universes that are initially separated by the central fold. It is a 44-page album that uses the double page as a narrative unit, does not use a frame to delimit the images and always focuses on the same space to generate a sense of dynamism (time-lapse) at each turn of the page. The characters represented (a girl, the wave and the seagulls) adopt an unmediated perspective and there is no visual contact with the reader, who adopts the

role of omniscient spectator of the narrative. The shot used is a general shot that remains fixed throughout the seventeen main sequences of the visual narrative and the angulation on the horizontal axis is frontal (greater intervention) and the vertical axis is equal (horizontal). There is only a variation in this dynamic in the power relations in the front cover (placing the reader in inferiority with respect to the character represented) and the last sequence from a bird's eye view (acute angle), which can be taken as a reference to the seagulls or to the process of the reader's entry and exit from the work.

After this first writing, a training period is introduced to introduce students to the analysis of the different elements of the album as a multimodal text, the relationships that occur between text and image (redundancy, complementarity and disjunction), analysis of the composition of the image based on the contributions of the semiotician and the particularities of the album without words. At the end of this period, the students must use this knowledge to produce a new piece of writing on the same Suzy Lee album. Both templates included questions for reflection on their creative process and the justification of the written text (narrative voice used, relationship between text and image in each sequence, number of words used and the influence of the semiotic code on their writing). Once the document had been submitted, the second questionnaire was completed.

Results and discussion

Quantitative results of learners' perception of multimodal literacy training

Table 4 presents the results for the seventeen items related to semiotic analysis (C01 to C12) and related to the perception of the importance of wordless albums in their training and future teaching (C13 to C17). The mean (M) and standard deviation (SD) values have two subscripts differentiated according to the time of measurement: 1 (pretest) and 2 (posttest). Additionally, the difference between the mean (MD) values is also included to clarify the analysis. The values of the comparison of means for related samples using *Student's t-value*, significance ($p < .05$) and Cohen's *d* value for effect size (considering that between .20 and .49 the effect is low, between .50 and .79 moderate and above .80 high).

Table 4

Results related to the perception of semiotic analysis.

Item	M ₁	M ₂	DM	DS ₁	DS ₂	t	gl	P	d
C01	8.67	9.41	.74	1.61	1.00	-5.67	113	.000	.57
C02	8.58	9.38	.80	1.49	.91	-5.68	113	.000	.67
C03	5.51	8.85	3.34	2.89	1.18	-12.54	113	.000	1.64
C04	7.51	9.05	1.54	1.97	1.09	-8.05	113	.000	1.01
C05	7.05	8.98	1.93	2.33	1.01	-8.27	113	.000	1.16
C06	7.04	8.96	1.92	2.13	1.10	-9.56	113	.000	1.19
C07	6.54	8.61	2.07	2.29	1.22	-9.21	113	.000	1.18
C08	6.67	8.54	1.87	2.57	1.32	-9.40	113	.000	.96

C09	6.46	8.54	2.08	2.38	1.32	-10.08	113	.000	1.12
C10	7.66	9.01	1.35	1.99	1.13	-7.59	113	.000	.87
C11	7.61	9.15	1.54	1.98	1.08	-8.74	113	.000	1.01
C12	6.32	9.02	2.70	2.55	1.18	-10.95	113	.000	1.45
C13	8.17	9.31	1.14	1.52	1.08	-7.55	113	.000	.88
C14	6.11	9.20	3.09	2.69	1.01	-11.94	113	.000	1.67
C15	8.29	9.55	1.26	1.67	.91	-7.77	113	.000	.98
C16	7.72	8.35	0.63	2.00	2.13	-2.79	113	.006	.31
C17	8.28	9.30	1.02	1.66	1.06	-7.90	113	.000	.75

The results show statistically significant differences in the seventeen items at a level of less than .05 ($p < .05$) in the comparison of the means for related samples between the initial moment and the moment after the didactic proposal. This is reflected in the increase in the means of all the items analysed, but which can be qualified by comparing the effect size values. Thus, only item C16 ($t_{(113)} = -2.79$; $d = .31$) showed a low effect size and items C01 ($t_{(113)} = -5.67$; $d = .57$) and C02 ($t_{(113)} = -5.68$; $d = .67$), despite the statistically significant difference ($p < .05$), showed a moderate effect size. These items were related to general questions about the importance of mediation work with wordless albums (C16), visual literacy (C01) and compositional image analysis (C02) in their teacher education. Although these items have shown more moderate progress between the before and after measures, when they are concretised in the semiotic analysis they are found to have an effect size above .80. These items focused on the semiotic component of the image (Kress and van Leeuwen, 2006) allow us to complete the analysis on the symbolic value of the illustration as in the research carried out by Gomes-Franco-e Silva (2019).

Among those with the highest effect size, item C14 ($d = 1.67$) stands out, in which they consider that the training they have received has enabled them to adequately evaluate wordless albums. This is materialised in the learning of aspects such as those collected in item C03 ($d = 1.64$) in which they consider that the training received allows them to analyse the visual code in the album book support or in C12 ($d = 1.45$) in which they recognise the importance of the material fold in the construction of meanings. This can be explained by the use of an album such as *The Wave* (Lee, 2010), which bases its narrative on the play with this material element. The items referring to the importance in the analysis of interactive relationships through the point of view of the characters represented (C04, $d = 1.01$), type of eye contact (C05, $d = 1.16$), plane used (C06, $d = 1.19$) or focus through angulation (C07, $d = 1.18$) have had a high effect size. In this sense, the selected items allow the semiotic analysis to be extended to other studies related to the perceptions and beliefs of students in teacher training about the elements and functions of the book-album (Martín-Macho Harrison and Neira-Piñeiro, 2018).

Perception of learning outcomes through the didactic sequence

Table 5 shows the results related to the measures of the questionnaire carried out after the implementation of the didactic sequence and at the end of the teaching period.

Table 5

Results related to the perception of learning in the training period.

Item	Mpost	Mrec	DM	DSpost	DSrec	t	gl	p	d
SD01	9.05	9.25	.20	1.18	.94	-1.91	113	.059	.19
SD02	9.34	9.46	.12	1.28	1.17	-.79	113	.434	.10
SD03	9.42	9.35	.07	.89	1.11	.61	113	.542	.07
SD04	8.92	8.84	.08	1.65	1.90	.53	113	.596	.05
SD05	9.52	9.51	.01	.87	.84	.10	113	.920	.11
SD06	8.85	8.98	.13	1.56	1.33	-.85	113	.397	.09
SD07	9.14	9.28	.14	1.20	.93	-1.21	113	.229	.13
SD08	8.89	9.01	.12	1.32	1.15	-.94	113	.352	.10

In this case, the eight items do not show statistically significant differences ($p < .05$) and this is due to the fact that the progress in learning made during the training period started from a low perception of their knowledge related to the communicative characteristics of a multimodal text such as the album. Among the items with the highest scores, we highlight SD05 ($M_{post} = 9.52$; $M_{rec} = 9.51$) related to the consideration of writing a text for a wordless album to identify the importance of the visual code and SD02 ($M_{post} = 9.34$; $M_{rec} = 9.46$) with which they express that wordless albums do not need an accompanying text. These values are in line with previous results on the importance in their learning to analyse the visual code and give prestige to its importance. Likewise, the participating students' perception of the training received in the period and the practice of creative writing in item SD01 showed a greater variation in their means ($t_{(113)} = -1.91$). In this way, the contributions related to the dimensions of compositional analysis in the album (Painter et al., 2013; Cañamares-Torrijos and Moya-Guijarro, 2019; Cañamares-Torrijos, 2021) have been transferred to a didactic proposal in which they apply these foundations on the importance of multimodal analysis and reflection on the narrative function of the visual mode.

Therefore, the null hypothesis is rejected as there are statistically significant differences when applying a creative writing didactic sequence based on a wordless album in the learning of multimodal analysis of the album in Primary Education students. In the results, however, it is specified that the effect size was low in one item (C16) and moderate in three of the items analysed (C01, C02 and C17) because they were general questions about the importance of the analysis of the visual code and the potential of the wordless album in their training. When we delve deeper into what semiotic analysis means in these narratives, we can see how they were unaware of these issues and express the relevance of these contents in their education. Thus, the first objective of the research focuses on identifying the students' beliefs and knowledge about the importance of multimodal analysis in the album (Painter et al., 2013; Cañamares-Torrijos and Moya-Guijarro, 2019; Cañamares-Torrijos, 2021), where these questions have shown statistically significant differences and a high effect size. This knowledge has been consolidated through praxis from a creative writing task (Martínez-Carratalá and Rovira-Collado, 2022) in which they

are able to identify the central elements of the album (text, image, materiality and sequentiality) confirming the total design (Bader, 1976). These learnings are relevant given the transferability of the analysis of the visual code from the wordless album as an interdisciplinary resource (Colón-Castillo, 2023).

The second objective is based on the learning of the didactic sequence, which does not show statistically significant differences between the period after its implementation and the school period. This fact reflects the consolidation of learning in the period, given that the variation between their values is relatively similar in both measurements. This activity allows them to develop their literary competence by trying to translate the contents received in the formative period, in the role of creators of a text, recognising the communicative keys of the album.

Conclusions

Literary education emphasises the interdisciplinary nature and the ability to evaluate multimodal texts of aesthetic intent where linguistic and visual modes are interrelated. The results of this didactic innovation proposal show that students acquire a greater capacity for analysis in their training that will allow them to read the visual code in order to move from a referential reading to an inferential reading and a critical assessment of the album (Arizpe et al., 2014). As future teachers, they will value these visual narratives given that they have acquired a metalanguage to analyse the code as proposed by Serafini (2015) and aligned with the proposal formulated by the New London Group (1996) that demands an opening towards "multiliteracy" in the educational field and, in this case, developed within literary education and creative writing as a multimodal composition (Stockman, 2022). In this way, by being able to reflect on the communicative capacity of the visual code and the different relationships that text and image establish (Nikolajeva and Scott, 2001), they are able to understand how meanings are constructed in the album. In this sense, the training was aimed at overcoming some of the shortcomings detected in the visual literacy trainees.

In a context in which their future teaching task will be to train future readers in the primary classroom, the participating students have identified the potential of wordless albums for their future educational practice and broaden their knowledge as future mediators. Their learning can also be transferred to other classroom practices that facilitate the construction of meanings such as literary gatherings based on these works, but improving their ability to interpret this type of visual narratives through wordless albums (Colón and Tabernero-Sala, 2018). To recapitulate, the study has shown the importance of the semiotic analysis of multimodal texts in teacher training, given their importance and incorporation into the Primary Education curriculum, and which underlines the importance of broadening communicative competences towards the interdisciplinary nature of multiple literacies (Unsworth, 2014). It is worth highlighting among the results the interest and discovery of this type of albums for their future classes, recognising the communicative capacity of the images and the absence of text as an element of interest within literary education. Among the limitations is the number of participants, given that this is a first experimentation and that, based on the results, the prospective will focus on increasing the number of participants to see if these data are maintained.

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