

CONCEPTUAL PHOTOGRAPHY AND CRITICAL LEARNING OF THE VISUAL ARTS IN THE UNIVERSITY CONTEXT: EDUCATIONAL EXPERIENCES OF FUTURE TEACHERS

 **PEDRO CHACÓN-GORDILLO**

Universidad de Granada,
Facultad de Ciencias de la Educación
pchachon@ugr.es

 **XANA MORALES-CARUNCHO**

Universidad Internacional de La Rioja
Escuela Superior de Ingeniería y Tecnología
xana.morales@unir.net

 **RAFAEL MARFIL-CARMONA**

Universidad de Granada
Facultad de Ciencias de la Educación
rmarfil@ugr.es

ABSTRACT

The present research study deepens the knowledge on the viewpoints of future primary education teaching professionals regarding issues associated with the educational system and its creative capacity. A study was carried out with 216 students undertaking a Primary Teaching Degree at the University of Granada (Spain). Participants were required to develop a conceptual photograph which reflected their thoughts regarding weaknesses of the educational system. The resultant pieces served as a research tool following the performance of formal and content analysis. The future teachers identify weaknesses classified in two broad spheres. The first refers to issues of a political or institutional nature which affect education at a general level, while the second refers to teaching methods and education at a more localised or specific level. This line of work in art education will serve to stimulate a critical view of the educational system with regards to the training of future teachers.

Keywords: Arts education; Future teachers; Teacher training; Educational system; Conceptual photography.

1. INTRODUCTION

As in many countries, the Spanish educational system is modelled on industrial organisational models, with the aim of protecting specific economic interests. In a similar way to that seen in factories, contemporary schools divide students into groups as a function of age, separating them into differentiated spaces and organising the curriculum into highly specialised subjects (Robinson, 2010). In the same way, classrooms have become clones of each other and are lacking personality, structured according to rows of tables and chairs oriented towards the teacher. This organisation favours one-way communication and impedes the free movement of students who, instead, occupy a fixed place that is determined based on criteria such as their study level, behaviour, etc. (Bosco, 2005).

The art education context should take a holistic view focused on democratic participation and connecting the visual arts to the “... cultural transformation of political discourse, social transformation and cultural identity” (Freedman, 2006, p. 25). The foundations of a humanistic and social approach to visual arts education should be considered (Barbosa, 2019, Dewey, 1902; Eisner, 1991; Gardner, 1994). For this reason, the present work connects creativity and education (Guilford et al., 1971) through visual thinking experiences (Arnheim, 1969; Urchegui Bocos, 2018) and the promotion of critical pedagogy (Gil-Glazer, 2017; McLaren & Kincheloe, 2008). Political and social agents should actively participate in arts education, leading to question unquestionable truths and promoting educational transformation (Martins, 2018, p. 64). In this sense, this research seeks to put these conceptual foundations into practice in order to promote critical thinking in future teachers.

This educational system assumes that all students have the same learning resources and assimilate information in the same way. Nonetheless, as indicated by Gardner (1998) when discussing “multiple intelligences”, all individuals possess different skills and abilities. Every person learns in a different way, uses different strategies and learns at different speeds (Navarro, 2008). This occurs even when learners have the same motivations, instructional level or age. Not all learning styles work the same for all individuals. For this reason, the educational system’s rigid structure directly impacts upon student’s correct development. Teachers should consider this reality with the aim of being able to take measures that favour learning. This will be made possible by putting formative processes into action during the university stage of teacher training.

Based on this reality, this research seeks to discern whether future primary school teachers are aware of the problems presented by the current Spanish educational system. It will only be possible to produce improvements that favour learning if this group is able to understand the deficiencies inherent to it. It is important that visual arts education contributes to a critical view of the education system. For this, the study seeks to identify, through a qualitative methodology, the issues reported by groups undertaking teacher training on the Primary Education Degree at the University of Granada. These studies are focused on preparing

teachers who will work with children aged between 6 and 12 years. The curriculum covered by this Andalusian institution is similar to that delivered at all Spanish universities. Concretely, participants were requested to produce a conceptual photograph based on Poetry Object resources, taking photographic work of the artist Chema Madoz as a reference. This activity is performed in one of the modules pertaining to Artistic Education included in the curriculum of the Primary Education Teaching degree. In relation to this photograph, students had to make individual reflections about the issues they observe in the educational system. This examination process has been called “use of the image as research” by Siegesmund and Freeman (2013). Leavy (2009) denominated it “visual arts-based participatory methods”. This describes a type of practice that incorporates participants into the research process through the creation of artistic pieces which fulfil a double function: data and representation of this data. In this sense, artistic image and creation are hugely important elements in the present research.

2. BACKGROUND

Very few research studies are found which have examined the viewpoints of samples constituted by members of the university educational community in relation to education through creational processes. Other noteworthy research related to this work in recent years includes advancements in the technological dimension or photography use (Alawad, 2013; García-Vera, 2019), the critical vision of the education system (Tavin, 2015) and visualisation practices in pedagogical training environments (Ramon, 2019). Some evaluations have also focused on the use of photo-essays in the training of future teachers (Marín Viadel & Roldán, 2010). It is through this line of work, specifically, where the connection between critical and creative capacity is found, through experiences lived in the present study.

Different ideas are present in this research pertaining to social participation and arts education in non-formal educational settings, such as museums. In many cases, contributions to the field of Arts Education have been based on the development of artistic and visual creation (Barone & Eisner, 2012; Cahnmann-Taylor & Siegesmund, 2008; Cruickshank & Mason, 2003). Nowadays, these works are adapted to the post-digital culture and must avoid historical and chronological assessments (Tavin & Tervo, 2018). Other approaches of interest include social transformation through digital *artivism* and the questioning of power relations (Escaño, 2021). In this sense, experiences must not neglect the importance of the digital setting in photographic creation processes.

One study carried out at the beginning of the 1990's by Hernández Hernández and Barragán (1991) can be discussed here. This study proposed autobiography writing as a method to be used within the investigated sample —made up by future teaching professionals— in order to make explicit their ideas about themes such as the role of the teacher, visual arts or what constitutes good teaching. Despite using

autobiographies in the same way in which the present study seeks to use conceptual photography, this prior work proposed a usage of this tool without specifying any conclusions following it. Without a doubt, the present study will examine this line of work in greater depth.

More recently, the researchers Agra-Pardiñas and Mesías-Lema (2011) carried out a project in which they urged future teachers to develop photographs in order to define and analyse the aesthetic, organisational, policy and administrative issues of educational centres. Photography was used as a tool for analysis, but the project aim was more educational than exploratory. The aspiration was to bestow participants with effective didactic resources for their future teaching practice. Despite everything, the experience demonstrated that visual arts, in general, and photography, in particular, allow an examination of the views held by trainee teachers about educational themes. For this reason, photography was chosen as the means through which to develop this research background by focusing on promoting critical capacity within the educational system through visual creation.

Finally, it is necessary to mention a previously conducted study in which the use of artistic creation was put into practice as a form of questioning reality (Morales-Caruncho & Chacón-Gordillo, 2018). In this prior research, published in 2018, the knowledge held by future primary education teaching professionals about the teaching of visual arts was examined, in addition to their ability to tackle the creative process. The study counted on a sample of 88 students undertaking the Degree of Primary Education. Artistic pieces developed by the participating sample proved to be a useful examination tool which enabled satisfactory evaluation of future teaching professionals' opinions regarding artistic educational material. This preliminary testing justified application with a broader sample through photography.

3. OBJECTIVES

The objectives of our present research are the following: 1. discern the themes developed by future primary education teaching professionals through photography when urged to reflect on issues related with the educational system; 2. identify whether these students have the skills and abilities needed to develop an artistic creation process; 3. employ Arts Education as an agent of change and social critique in the context of higher education.

It is also important to link each objective with the actions performed to meet them. The first objective was reached through content analysis of the collected photographs. The second objective was addressed through formal examination of the level of elaboration, image quality and level of conceptual abstraction of the collected photographs. The third objective required a more extensive line of work, examining the context of arts education as an agent of change and a promoter of critical capacity. In summary, this objective aimed to identify concerns, rate creative capacity and, finally, use art as a path to critical reflection and social transformation.

4. METHODS

4.1. METHODOLOGICAL FRAMEWORK AND RESEARCH DESIGN

The present research was based on qualitative methodology and combined the use of instruments for research inquiry which can be grouped into resources that question reality and observational resources (Gutiérrez Pérez, 2005). In the case of the present research, this qualitative aspect was based on an initial analysis of the style of Chema Madoz and on a debate throughout the process, whether within the group or through discussion with teachers. Furthermore, this qualitative perspective is seen in the content analysis of the final images. This focused on criteria that were more geared towards the approach and conceptual “quality” than quantitative parameters. The only quantitative aspect of the present study is seen in the presentation of basic outcomes pertaining to proportional groupings.

In addition to its qualitative foundation, the present work also presents a content analysis of the resulting images. This analysis was based on formal and critical examinations (Aparici & García Matilla, 2008; Mitchell, 2017). The purpose of the activity was to stimulate artistic learning and critical visions of the educational system through photographic creation. In this sense, images also become, in themselves, research outputs, in line with arts-based research methodologies (Irwin & Cosson, 2003; Marín Viadel & Roldán, 2019). Therefore, the methodological framework integrated quantitative evaluation alongside with a consideration of images as research outputs themselves. In this way, the present research contributes with some highly relevant visual examples.

4.1.1. RESOURCES FOR QUESTIONING AND TRANSFORMING REALITY

The main tool employed for inquiry was individual conceptual photography, through which the investigated sample reflected on issues associated with the educational system. The 216 gathered artistic pieces served as a research tool and produced evidence in relation to the following aspects:

The types of aspects alluded to by future teachers when urged to indicate issues relating to the educational system.

To what extent are future teachers able to put a process of artistic creation into action.

The way in which visual and artistic creation becomes a path to critical demands.

As we have already indicated, authors such as Siegesmund and Freeman (2013) or Leavy (2009) are of the opinion that artistic pieces enable the identification and evaluation of aspects which allude the author when they are asked to reflect on themes related to their social and cultural context.

In this way, artistic language performs similar functions to those of verbal language, helping us to understand the way in which groups of individuals think in a determined context. The completion of creative work entails intellectual and constructive processes (Eisner, 2004). This makes artistic pieces hugely interesting as elements of analysis, given that they contain fragments that have already been filtered through an individual's way of thinking.

The investigated sample was requested, concretely, to develop a conceptual photograph inspired by the works of the photographer Chema Madoz. This photographic work, based on use of visual rhetorical tools via Poetry Object resources, was especially valid for the visual transmission of ideas.

At the same time, future teachers were requested to produce a personal report in which they discussed certain essential aspects to the artistic process including preliminary ideas, reasons behind final problem selection, prior tests and explanation of final execution. This enabled comparison between the information deduced from each photograph and the content of individual reports. Qualitative evaluations of these works were, therefore, included together with the creative facet.

4.1.2. RESOURCES FOR OBSERVING AND UNDERSTANDING REALITY

Observations carried out within the present research were “participatory” (Rodríguez Gómez et al., 1999) because they intervened on the studied context by proposing activities and were integrated within the studied sample during work sessions. At the same time, observations were “non-structured” (Evertson & Green, 1989) because, rather than taking a selective look dedicated to the search for specific behaviours, events or processes, they collected data in a free and multi-dimensional way, compiling all possible aspects from the situation under observation.

This being said, the instruments or resources used to observe and understand reality were elaborated from a field diary and photographs taken by researchers during the artistic process. The aim of these two instruments was to take a written and visual record of the impressions, events and behaviours observed during the artistic process carried out by the participants during different work sessions.

4.2. PARTICIPANTS

The present study was carried out in the Faculty of Educational Sciences at the University of Granada (Spain). It included a sample of 216 students, of which 122 were females and 94 were males, with an average age of 22 years old. All participants were students enrolled on the fourth year of the Primary Education Degree at this university. This degree provides multi-disciplinary training and lasts four years. University-level education is required in Spain in order to work in the teaching profession at the educational stage pertaining to primary school.

The participating future teachers were just about to finish their training period and, therefore, hold opinions in relation to potential issues within the educational system. Finally, the present research was conducted in the context of fourth-year visual arts didactic material. This material prepares future teaching professionals for delivering teaching on visual and plastic arts at school.

4.3. PROCEDURE

The research study was delivered over eight work sessions. The first was dedicated to explaining the activity. The rest were designated for participants to put the creative process into practice. We then proceeded to analyse the results. Session development was based on making contact and an initial exploration of artistic work on which the experience was based. In this case, the Spanish artist Chema Madoz, selected for his international prestige in the contemporary art setting and the line of work based on metaphor and visual poetry. In this sense, it is normal for the group with whom this work is performed to need two sessions (equivalent to weeks) to document, investigate and internalise the required work processes and philosophies.

All other sessions were based on creative dynamics for debate in group contexts. Sketches were designed and then later discussed with module teachers, until visual outputs and key messages of the final project were presented through oral presentations to peers.

During the process, teachers took notes and, after photographic works were handed in, content analysis was conducted according to the parameters established in section 4.4. It is important to be aware that the final images themselves, in addition to being analysed, provide outcomes that respond to our research objectives.

4.4. DATA ANALYSIS

Once the information was collected, conceptual photographs given in by participants were analysed on the following aspects:

4.4.1. ISSUES REFLECTED IN THE PHOTOGRAPHS AS A WHOLE

Content analysis of each of the collected photographs revealed the issues explicitly mentioned in each piece of work and enabled analysis of the frequency on which each theme was mentioned.

4.4.2. LEVEL OF FORMAL ELABORATION OF THE PHOTOGRAPHS AS A WHOLE

In order to judge the level of formal elaboration, photographs were classified based on whether they were original works or photographic montages produced on the basis of other authors' works of art.

4.4.3. IMAGE QUALITY OF THE PHOTOGRAPHS AS A WHOLE

This aspect was only analysed in cases where the photographs were original and focused on the following three specific factors:

- Adequacy of the thematic photograph's composition.
- Adequacy of the thematic photograph's visual language.
- Adequacy of the thematic photograph's lighting.

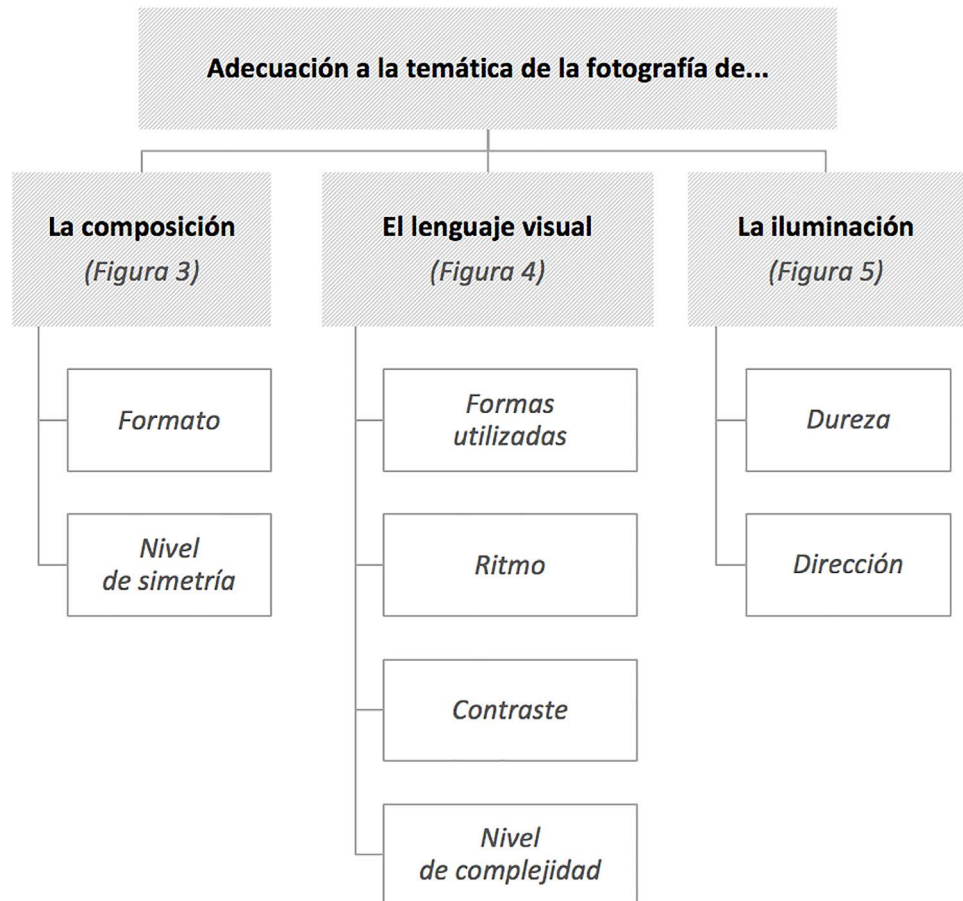


Figure 1. Aspects analysed in order to determine the image quality of the collected photographs. Source: self-elaborated..

The aim was to analyse whether formal elements of the photographs were used correctly (visually reinforcing the idea that the image seeks to transmit), in a way that could be improved, or incorrectly (visually contradicting the idea that the image seeks to transmit). In order to judge this correction, certain criteria were established in relation to the use of photographic language, in accordance with experts such as Perea, Munárriz and Castelo (2007), Samara (2008), Duchemin (2012) and Carroll (2017). These aforementioned criteria are detailed in the next section:

With regards to the block pertaining to composition, the format of an image and the way in which it is read or interpreted was analysed. Vertical formats are more provocative in that they exert a strong push in an upwards or downwards direction. Horizontal formats are more passive and produce a feeling of calm (Samara 2008).

The level of symmetry of the composition was also analysed. Symmetrical compositions provide an overall sense of balance and calm by placing the main element at the centre of the image. Asymmetrical compositions place the main object of the image further away from the visual centre and is based on strategies such as the rule of two-thirds or the diagonal. This second type of composition tends to be more provocative and assertive than the first type.

With regards to the block pertaining to visual language, the use of organic or geometric elements, visual rhythm, contrast and the degree of complexity of the images was analysed.

Organic elements take on more irregular and complex shapes, consequently being more strongly associated with what is human, spontaneous and natural. Geometric shapes have more rigid and regular outlines and are, therefore, perceived to be more artificial, constructed and synthetic structures (Samara 2008).

The rhythm of the image is given through repetition of the visual elements found within it, such as lines, surfaces, volumes, etc. Rhythm communicates the existence of a connection between different parts of a photograph; however, it can be monotonous if distorting objects are not included as a counterpoint (Perea et al., 2007).

Contrast refers to the disparity between the tones and colours of the image, attracting the viewer to look. The degree of contrast can be used to highlight elements of the photograph or can make them go unnoticed.

Images are considered to be simple when their composition includes very few elements. Complex images present image saturation within the frame of the image.

With regards to the block pertaining to lighting, sharpness and the direction of light were analysed.

Hard light creates a large amount of contrast, emphasising certain elements and simplifying the composition. Soft light is more uniform and transmits a visual sensation of slowness and relaxation (Carroll, 2017).

With regards to direction, front lighting causes the texture and volume of photographed objects to disappear, provoking a degree of spatial confusion. Side lighting generates contiguous shadows, giving the feeling of three-dimensionality, and emphasising objects and textures within the composition. Overhead light is perceived in a more natural way. It is found located above the photographed object

and imitates sunlight. Finally, backlighting comes from behind the photographed object and provokes a large amount of contrast which reduces the photographed event to silhouette shapes that are clearly differentiated from the background of the image.

Level of conceptual abstraction of photographs as a whole. This final aspect was also analysed in photographs classified as original and was based on the identification of visual rhetorical figures (Acaso, 2008; Barthes, 1964). The results reported in relation to the aforementioned analysis have been agreed upon by the study authors and later reviewed by another two researchers from the area of the didactics of artistic expression who acted as external judges.

5. RESULTS

5.1. ISSUES REFLECTED IN THE PHOTOGRAPHS AS A WHOLE

Following the analysis of the 216 pieces produced by future teaching professionals, firstly, trends were revealed with regards to the issues reflected in the photographs. These trends were as follow:

- A. Absence of concern for the development of skills such as creativity and critical thinking.
- B. Abusive application of traditional teaching methods such as rote learning.
- C. The excess of educational laws.
- D. Financial cuts.
- E. The excess of homework and extracurricular activities.
- F. Lack of future job opportunities for trainee teachers.
- G. Absence of tools to combat inequality and exclusion within the classroom.
- H. The absence of tools to fight against school bullying within the classroom.
- I. The inadequacy of the classroom as a space for work due to its high degree of rigidity and confinement.
- J. Poor use of new technologies.
- K. Failure at school.
- L. Ineffectiveness of students' evaluation methods.
- M. Ineffectiveness of evaluation methods within the educational system itself.

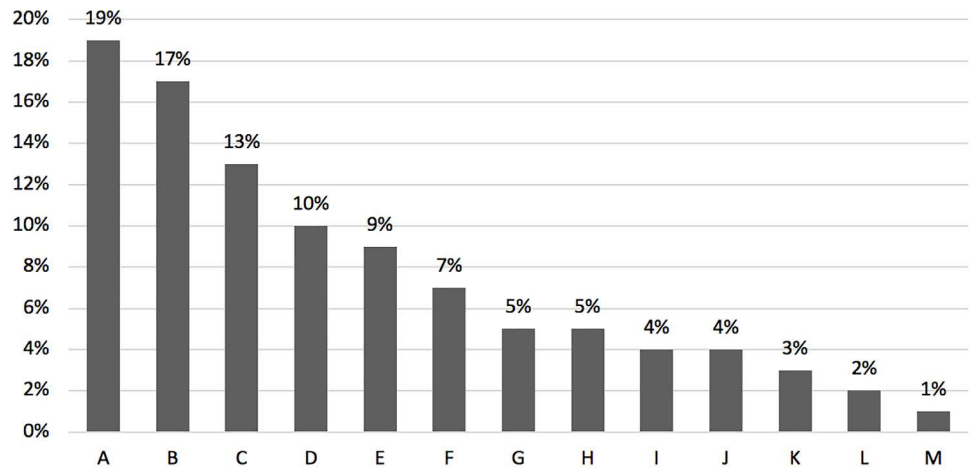


Figure 2. Frequency of which issues are revealed by photographs produced by future teaching professionals. Source: self-elaborated.

As can be observed in figure 2, the most frequently referred issue was the absence of concern for the development of skills related with creativity and critical thinking (A). The art works of participants who dealt with this theme referred to:

The huge importance given by different agents and educational institutions to knowledge of a linguistic or mathematical nature.

The lack of relevance given to other types of skills such as reflective capacity, emotional management or cognitive development.

The lack of curricular inclusion of materials which specifically develop creativity and critical thinking, as in the case of artistic education and musical education.

The next most commonly alluded issue was the abusive application of traditional teaching methods such as rote learning (B). The participating future teaching professionals criticised the excessive use of textbooks, frequently turned into the only methodological tool used in the development of teaching. Likewise, participants manifested a clear concern about the lack of relationship established by the school between educational contents and students' social reality. They reproached the abuse of pedagogical models based on memorisation, written exams and lectures, in which information only moves one-way and students act only as receivers.

The third main issue referred by the participating future teaching professionals was the excess of educational laws put into action in Spain over the last few decades (C). Participants urged the need for a political pact for an education that covers aspects such as the equality of individuals, lay education, the promotion of a democratic and participatory school, and the elaboration of a curriculum which gives more weight to collaborative learning and innovative teaching methodologies.

Fourthly, the participating students mentioned the issue of financial cuts within the educational ambit (D). Among these, they highlighted cuts to the numbers of grants in compensatory education and research.

In fifth position, participants referred to the excessive homework and extracurricular activities (E). In this respect, they urged the need to better organise study time in the classroom, make possible the creation of rest areas within the school and reduce pressure with regards to learning processes for the youngest learners - avoiding the promotion of malaise and low self-esteem.

Another issue that was also indicated by participants was the lack of future job opportunities for trainee teachers (F). Participants referred to the freezing of entry assessments which, according to them, has led to a clear reduction in the number of teachers. At the same time, this has led to an increase in the number of students in each classroom. In a parallel way, participants were critical of the system for selecting new teachers, describing it as obsolete, and alluded to the excess of university degree qualifications. According to participants, imbalances between the supply and demand of work curtails the professional opportunities for future teachers, provoking an inevitable brain drain.

To a lesser extent, participants indicated other issues such as the absence of tools to combat inequality, school exclusion and bullying (G and H), inadequacy of the classroom as a space for work (I; due to its rigidity, lack of adaptability and one-dimensionality), misuse of new technology (J; reinforced by the lack of interest in and knowledge of these resources by teachers), failure at school (K), and ineffectiveness of the evaluation methods used by students (L) and the educational system itself (M; mentioning, concretely, the case of the PISA Report).



Figure 3. Ignacio Raga (2017), Apresada [Captured]. Photograph taken by a student that criticises the lack of concern shown for the development of skills such as creativity and critical thinking. © I. Raga. Primary Education student. Bachelor's degree student in Primary Education.

5.2. LEVEL OF FORMAL ELABORATION OF PHOTOGRAPHS AS A WHOLE

Of the 216 photographs gathered in the present study, only 55 (25%) were photographic montages produced on the basis of photographs taken by other authors. The remaining 161 photographs (75%) were original photographs taken by the participants themselves. It is necessary to indicate that, although all images were studied at a thematic level, only the 161 original photographs were analysed in relation to their image quality and abstraction level.

5.3. IMAGE QUALITY OF THE PHOTOGRAPHS AS A WHOLE

5.3.1. ADEQUACY OF THE THEMATIC PHOTOGRAPH'S COMPOSITION

According to the obtained outcomes, 49% of the analysed photographs chose the correct format —vertical, neutral or horizontal— in relation to their theme. In 31% of the pieces, this choice could be improved, whilst in 20% of cases the format was incorrect as it was not appropriate to the content of the photograph.

With regards to the use of symmetry in the compositions, 49% of analysed images had a composition that was appropriate to its theme. In these cases, future teaching professionals also demonstrated clear mastery over the rule of thirds and the diagonal. In this sense, only 22% of the photographs studied made a poor use of the composition with regards to its symmetry, generating disorganised images that were visually difficult to read.

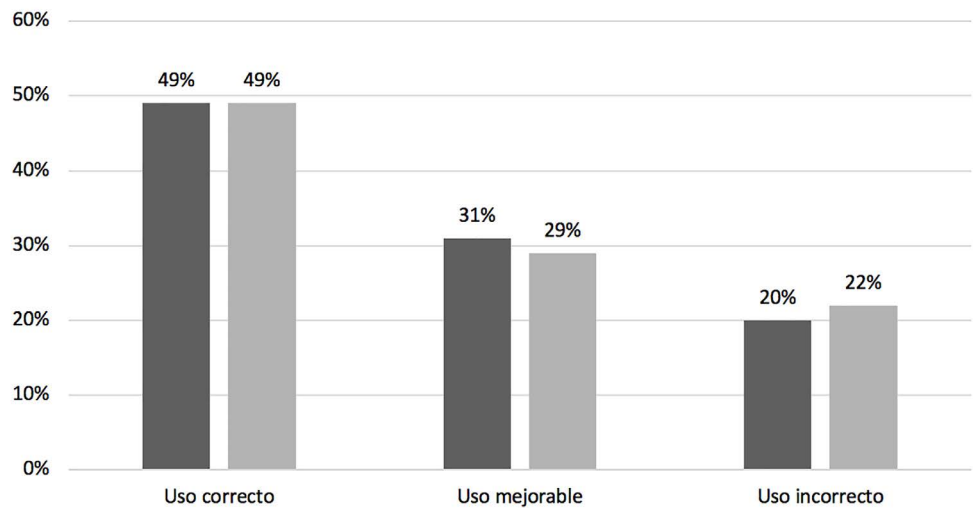


Figure 4. Adequacy of the composition to the theme in original photographs taken by future teachers. Source: self-elaborated.

5.3.2. ADEQUACY OF THE THEMATIC PHOTOGRAPH'S VISUAL LANGUAGE

With regards to the presence of organic or geometric shapes, these formal elements were used correctly in 53% of images, establishing a direct visual relationship with the considered theme. On the other hand, a better use of these shapes was required in 28% of the images as they tended to confuse the message. Finally, organic and geometric shapes were used incorrectly in 19% of the photographs, expressing the opposite idea to the one they sought to transmit.

Secondly, visual rhythm was used appropriately in 31% of the analysed images, demonstrating a direct relationship with the theme being represented. In many of these cases, rhythm acted as a form of connection or visual rhyme between the different elements appearing in the image. In a parallel way, rhythm was applied as a distorting element in some photographs, being purposefully broken up. This contributed not

only to focus attention on the main message but also to ensure that the image did not fall into the realms of monotony and repetition. In this sense, the use of rhythm could have been improved in 12% of the cases and only 3% of the studied photographs applied rhythm in an inappropriate way. Within this 3%, we find images that abused this resource, generating a degree of visual monotony which distracted attention away from the main message. Finally, with regards to rhythm, it is necessary to indicate that this resource was used in only 46% of the studied pieces.

With regards to contrast, this resource was used appropriately in 45% of the original photographs developed. This was used in order to highlight the most meaningful elements of the image. In exception to this, contrast was used poorly in 27% of the analysed images, highlighting, instead, secondary elements and shifting the focus of attention away from where it should have been, to the point of generating visual chaos.

In conclusion, 48% of the studied photographs presented an adequate level of complexity in relation to the represented thematic. In this sense, the majority of the developed images had a low level of visual complexity, as they dealt with simple compositions with few elements and a clear focal point surrounded by large amounts of negative space.

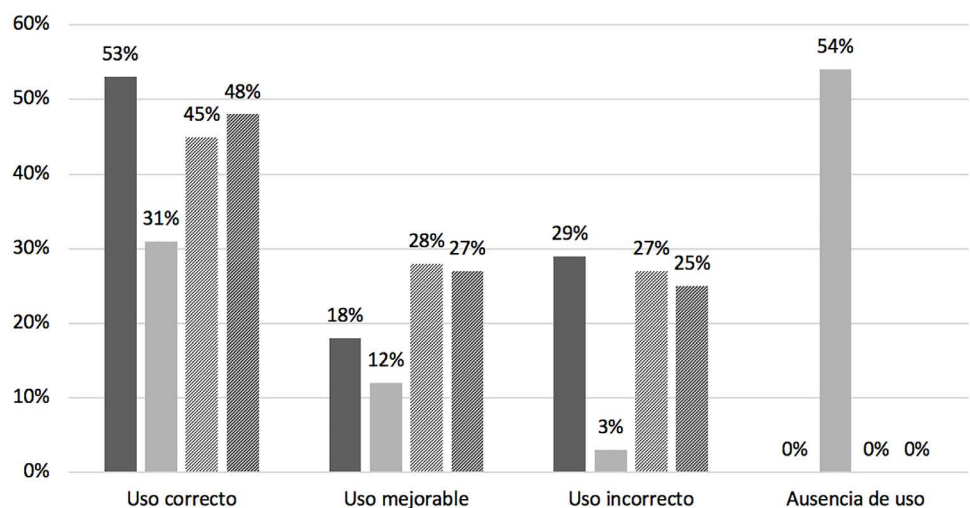


Figure 5. Adequacy of the visual language to the theme in the original photographs produced by future teachers. Source: self-elaborated.

5.3.3. ADEQUACY OF THE THEMATIC PHOTOGRAPH'S LIGHTING

According to the results obtained, the sharpness of the light was appropriate to the represented theme in 35% of the studied works. The majority of analysed photographs were based on the use of soft lighting, contributing to the generation of images with a degree of uniformity. These transmitted feelings related with calmness or tranquillity. Contrast was not sufficient or was not entirely uniform in 30% of the studied photographs. For this reason, the use of light, in terms of sharpness, was considered to be in need of improvement in these cases. Finally, in 35% of cases, light sharpness was considered to have been used incorrectly. In many cases, this failure was due to the excessive presence of light, which generated burnt images in which certain details were imperceptible and a slight sensation of artificiality was produced.

With regards to the direction of the light, lighting was used correctly in only 22% of the analysed images. Side lighting was the most commonly used type of lighting, generating shadows that strengthened the three-dimensionality of photographed objects, emphasising their features and converting them into the focal point of the composition. In this sense, the direction of the light was incorrect in 48% of the photographs analysed. In many of these cases, both frontal lighting and backlighting were abused, provoking significant spatial confusion and generating silhouettes which did not allow, respectively, the texture and volume of photographed objects to be recognised.

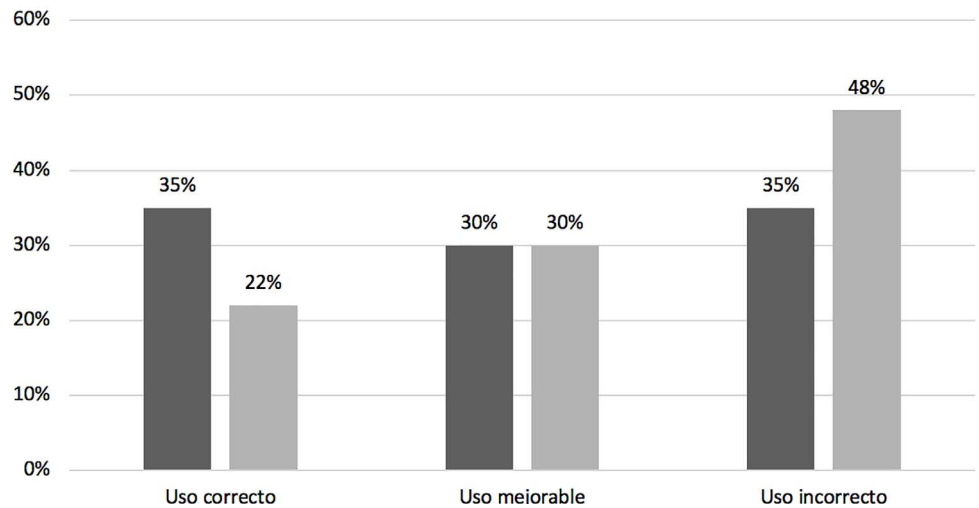


Figure 6. Adequacy of the lighting to the theme of the original photographs produced by future teaching professionals. Source: self-elaborated.



Figure 7. Manuel A. García (2017) Ahogada [Drowned]. Photograph taken by a student that reflects on the abusive application of traditional teaching methodologies, such as rote learning, and the drowning of creativity caused by these methodologies. © M.A. García. Primary Education student. Bachelor's degree student in Primary Education.

5.4 LEVEL OF CONCEPTUAL ABSTRACTION OF THE PHOTOGRAPHS AS A WHOLE

In relation to the application of visual rhetorical figures in the gathered original photographs, we highlight the broad use of metaphorical resources, materialised through the substitution of one image element for another. Next, a wide presence of the resource of irony is also found, visually forging a certain type of contradiction between that represented in the photograph and its meaning. Hyperbole was the third most used rhetorical figure, created by exaggerating some of the image's elements. Prosopopeia was also identified, used to bestow represented objects with human values. Finally, both repetition - manifested through the reiteration of certain image elements with a specific meaning - and metonymy - in which a single object or element replaces a larger conceptual whole - were also fairly and widely used as visual resources.

Other visual rhetorical figures identified in the analysed images, although less often applied, were paradox, antithesis, parallelism, ellipsis and pragmatography.

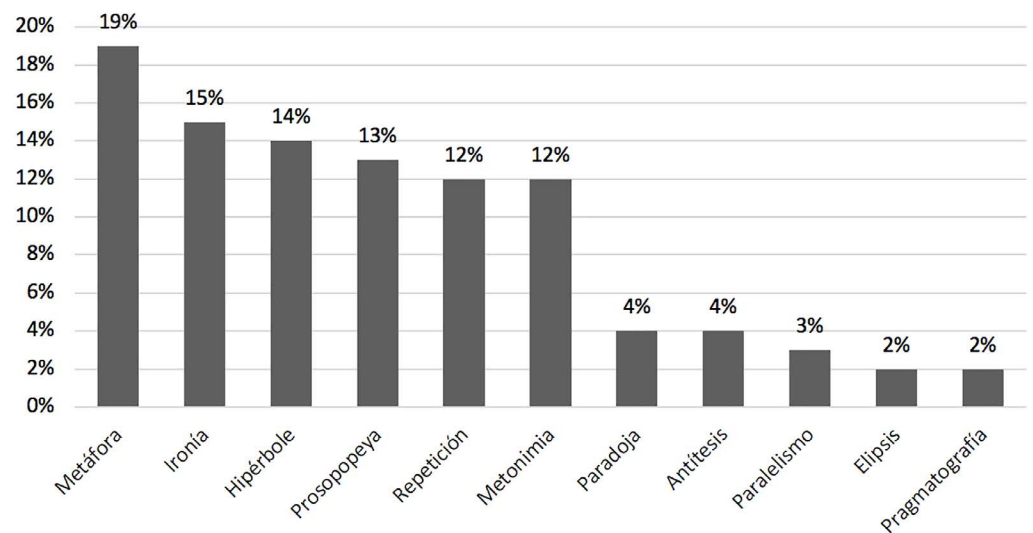


Figure 8. Percentage of original photographs produced by future teaching professionals using visual rhetorical figures. Source: self-elaborated.



Figure 9. Rocio Rodríguez (2017), Sin título [Untitled]. Photograph produced by a student that reflects the lack of future work prospects for trainee teachers. © R. Rodríguez. Primary Education student. Bachelor's degree student in Primary Education.

6. DISCUSSION AND CONCLUSIONS

Findings of the present work are consistent with some of the lines discussed in the introduction, such as the need to critically review the educational system (Agra-Pardiñas & Mesías-Lema, 2011) and new approaches to artistic learning (Gil-Glazer, 2017; Martins, 2018), in which it is of great interest to convert visual creation into a research method (Barone & Eisner, 2012; Marín Viadel & Roldán, 2019). The importance of addressing biographical and identity-related issues must be noted (Hernández Hernández & Barragán, 1991; Ramon, 2019). These activities make personal and human projection possible. A critical vision and demand for democratic participation through other teaching models is evident. These aspects are historically demanded by students (Dewey, 1902), although it would be interesting to broaden the sample and draw up international comparisons in future research. In this sense, it is important to specify that findings of the present study are applicable to Spanish students undertaking a Primary Education Teaching degree. Teacher training in Europe is more heterogeneous due to the large variety of university contexts and study curricula and, therefore, the present conclusions are less directly applicable.

With regards to the aim of examining the emergent themes in photographs taken by future primary education teaching professionals (when urged to reflect on issues inherent to the educational system), it was highlighted a perception on a lack of concern in relation to the development of creativity and critical thinking. Likewise, trainee teachers'

discomfort with regards to traditional teaching methods such as rote learning, written exams and lectures was also notable, as these were generally considered to be highly ineffective.

Furthermore, although these two issues were the most frequently reported, they were not the only issues addressed in relation to the current research context. In their photographs, the examined future teachers reflected on a large number of concerns in relation to the current educational system. The variety of concerns expressed demonstrates that this group is interested in the future of teaching and holds a truly complete view of the contemporary educational system, mostly with regards to its potential weaknesses. We consider this to be a positive outcome given that students in training are the very individuals who will build the future educational system. It will only ever be possible to manage implementing the required improvements if this group identifies existing defects.

At the same time, and with regards to the issues represented in the gathered photographs, it is possible to group them into two large spheres:

On the one hand, issues that are political or institutional in nature and effect education at a very general level. These include organisation of the curriculum, the weight of certain material within the curriculum, educational laws, financial cuts, lack of professional opportunities on the entry level, rating methods for educational quality and the tools held by educational institutions to combat inequality, exclusion and bullying at school.

On the other hand, we find issues related to teaching methods and education at a more local or specific level. Particular, this refers to all of the issues that concern individual teachers within the specific context of the material they impart, the classroom in which they carry out their work or the students they have under their supervision. Such issues include teaching methods, management of the workload bestowed on their students, distribution of the educational space and its influence on learning, application of new technology, combatting academic failure and evaluation of learners' knowledge.

Whilst this second group of issues can be addressed in a specific way, given that teachers have the capacity to impact them within their work environment, issues in the first group can only be addressed through more general measures which are not controlled by the individual actions of each professional. Despite this, it can be stated that the identification of all of these issues by future primary education teaching professionals contributes positively to the search for solutions, whether this solution is found through modifying certain behaviours in specific contexts or by promoting the hatching of organised movements for the improvement of education.

Secondly, in relation to the aim of analysing the extent to which future primary education teaching professionals are able to put a process of artistic creation into action, it is crucial to indicate that a quarter of participants in the present research did not manage to produce original

photographs and, instead, developed images from the works of other authors. Whilst it is true that this latter group was a minority group, it is also true that this group was larger than it should be. This is especially the case when it is considered that the experience of the present research was developed in the ambit of “didactics of the visual arts” material (a unit on the Primary Education Degree that is prepared, specifically, for the teaching of artistic education).

In conclusion, more future teachers should have been able to produce an original photograph with an artistic intention. On the other hand, of those participants who possessed enough skills to produce an original photograph, barely half managed to correctly apply compositional principles and visual language in order to communicate their ideas. This proportion decreases even more when we speak about the correct application of lighting. Whilst it is true that this final aspect is the most difficult to correctly execute at the time of taking a photograph, it is also the most important of them all. Given all of the aforementioned, it can be stated that more future teaching professionals should know how to appropriately apply composition, visual language and lighting in order to achieve a series of previously framed communicational and artistic-expressive objectives.

Finally, in relation to the degree of conceptual abstraction found in the original photographs analysed, we identified a large number of visual rhetorical figures. These resources turned out to be widely varied, of great communicational wealth and correctly applied. We could say, therefore, that the future teaching professionals examined knew how to appropriately transmit their ideas through figures which implied a large degree of visual abstraction. This visual abstraction was seen through metaphor, irony, hyperbole, prosopopoeia, repetition and metonymy.

It is obvious, therefore, that the studied photographs were better elaborated at a conceptual level than in respect to their formal or visual execution. In this sense, it is curious that, when asked about issues in education, future teaching professionals indicate the development of creativity and the promotion of materials, such as artistic education, as a primordial one. Nonetheless, when these teachers themselves were asked to execute an artistic process, they struggled to correctly develop the formal aspects.

In conclusion, the present research demonstrates the value of using artistic creation as a way of questioning reality. Following the obtained outcomes, it can be stated that the overall set of artistic pieces gathered in the present study has contributed to a more complete and multi-dimensional view of future teaching professionals in primary education tackling issues presented by the educational system. In a parallel way, the present methodology permitted evaluation of the ability of these teachers to put a creative process into practice, thus fulfilling the two preliminary objectives proposed by the study. The third and more ambitious objective was not limited to a single research project but to a broader line of work as it focuses on the use of Arts Education as an agent of change and social transformation. The present work provides evidence that it is possible to

stimulate this critical vision and that this is especially important for the training of teachers who will shape the educational system in the future.

REFERENCES

Acaso, M. (2008). *El lenguaje visual*. Paidós.

Agra-Pardiñas, M. J. & Mesías-Lema, J.M. (2011). Questions before words. An Educational Space, a Stimulating Space. *International Journal of Education through Art*, 7(1), 7-26.

https://doi.org/10.1386/eta.7.1.7_1

Alawad, A. (2013). Technologies in the art classroom: Using technologies in art classrooms to overcome cultural limitations to support teaching and learning. *Journal of Fine and Studio Art*, 3(1), 1-4.

<https://doi.org/10.5897/JFSA11.005>

Aparici, R. y García Matilla, A. (2008). *Lectura de imágenes en la era digital*. Ediciones de la Torre.

Arnheim, R. (1969). *Visual Thinking*. University of California Press.

Barbosa, A.M. (2019). *A imagem no ensino da arte: anos 1980 e novos tempos*. Perspectiva.

Barone, T. & Eisner, E. (2012). *Arts based research*. Sage.

Barthes, R. (1964). Rhétorique de l'image, *Communications*, 4, 40-51.

<https://bit.ly/3g2z9BV>

Bosco, A. (2005). Espacio y tiempo: dos elementos clave en la mejora de la escuela. Kikiriki *Cooperación Educativa*, 75-76, 36-42.

Carroll, H. (2017). *Lea este libro si desea tomar buenas fotografías*. Blume.

Cahnmann-Taylor, M. & Siegesmund, R. (Eds.). (2008). *Arts-based research in education. Foundations for practice*. Routledge.

Cruickshank, I., & Mason, R. (2003). Using photography in art education research: A reflexive inquiry. *International Journal of Art and Design Education*, 22(1), 5–22.

<https://doi.org/10.1111/1468-5949.00335>

Dewey, J. (1902). Democracy in Education. *The Elementary School Teacher*, 4(4), 193-204.

<https://doi.org/10.1086/453309>

Duchemin, D. (2012). *El lenguaje fotográfico*. Anaya.

Eisner, E. (2004). *El arte y la creación de la mente. El papel de las artes en la transformación de la conciencia*. Paidós.

Eisner, E.W. (1991). *Educación la visión artística*. Barcelona: Paidós.

Escaño, C. (2021). Arts and the Commons. Practices of Cultural Expropriation in the Age of the Network Superstructure. In J. Martín Prada (Ed.). *Art, Images and Network Culture* (pp. 137-155). McGraw-Hill.
<https://bit.ly/3g9faS6>

Evertson, C. M. & Green, J. L. (1989). La observación como investigación y método. In Merldin C. Wittrock (ed.). *La investigación de la enseñanza II. Métodos cualitativos y de observación* (pp. 303-421). Paidós.

Freedman, F. (2006). *Enseñar la cultura visual. Currículum, estética y vida social del arte*. Octaedro.

García-Vera, A.B. (Coord.). (2019). *La fotografía en la formación del profesorado*. Narcea.

Gardner, H. (1994). *Educación artística y desarrollo humano*. Paidós.

Gardner, H. (1998). *Inteligencias múltiples. La teoría de la Práctica*. Paidós.

Gil-Glazer, Y (2017). Visual culture and critical pedagogy: from theory to practice: from theory to practice. *Critical Studies in Education*, 61(1), 66-85.
<https://doi.org/10.1080/17508487.2017.1292298>

Guilford, J.P., Lagemann, J.k., Eisner, E.W., Singer, J.L, Wallach, M.A., kogan, N. Sieber, J.E. & Torrance, E.P. (1971). *Teachers and the learning process*. Prentice-Hall.

Gutiérrez Pérez, R. (2005). Los estudios de casos: Una investigación metodológica para investigar la educación artística. In R. Marín (ed.), *Investigación en Educación Artística* (pp. 151-174). Universidad de Granada.

Hernández Hernández, F. y Barragán, J. M. (1991). La autobiografía en la formación de los profesores de educación artística. *Arte, Individuo y Sociedad*, (4), 95-102.
<https://bit.ly/2RuldXv>

Irwin, R. & Cosson, A. (Eds.). (2003). *A/r/tography. Rendering Self Through Arts-Based Living Inquiri*. Pacific Educational Press.

Leavy, P. (2009), *Method meets art. Arts-based research practice*. Guildford.

Marín Viadel, R. y Roldán, J. (2010). Photo essays and photographs in visual arts-based educational research. *International Journal of Education Thought Art*, 6(1), 7-23.

https://doi.org/10.1386/eta.6.1.7_1

Marín Viadel, R. y Roldán, J. (2019). A/r/tography and Visual Arts Based Educational Research. *Arte, Individuo y Sociedad*, 31(4), 881-895.

<https://doi.org/10.5209/aris.63409>

Martins, C. S. (2018). The Alchemies of the Arts in Education. Problematizing Some of the Ingredients of the Recipe. In B. Jörissen, L. Klepacki, T. Klepacki, V. Flasche, J. Engel, & L. Unterberg (Eds.), *Spectra of Transformation* (pp. 41–57). Waxmann.

Mitchel, W.J.T. (2017). *¿Qué quieren las imágenes?*. Sans Soleil Ediciones.

McLaren, P. & Kincheloe, J.L. (Eds.). (2008). *Critical Pedagogy: Where Are We Now?* Peter Lang Publishing.

Morales-Caruncho, X. & Chacón-Gordillo, P. (2018). Pre-service teachers and visual arts education. A study based on artistic creation as a way of interrogating reality. *Infancia y Aprendizaje*, 41(2), 287-324.

<https://doi.org/10.1080/02103702.2018.1434036>

Navarro, M. (2008). *Cómo diagnosticar y mejorar los estilos de aprendizaje*. Asociación Procompal.

Perea, J., Munárriz, J., & Castelo, L. (2007). *La imagen fotográfica*. Akal.

Ramon, R. (2019). Artistic practices of visualization between body and object in environments of pedagogical mediation. *Arte, Individuo y Sociedad*, 31(3), 509–526.

<https://doi.org/10.5209/aris.60881>

Robinson, K. (2010, October), Changing education paradigms [video]. Retrieved from

<https://bit.ly/3g0q8tp>

Rodríguez Gómez, G.; Gil, J. y García Jiménez, E. (1999). *Metodología de la investigación cualitativa*. Aljibe.

Samara, T. (2008). *Los elementos del diseño*. Gustavo Gili.

Siegesmund, R. & Freedman, K. (2013). Images as research: Creation and interpretation of the visual. In F. Hernández Hernández & R. Fendler (eds.), *1st Conference on Arts-Based and Artistic Research: Critical reflections on the intersection of art and research* (pp. 18-26). University of Barcelona. Retrieved from <https://bit.ly/3a0rXTI>

Tavin, K. M. (2015). Wrestling with Angels, Searching for Ghosts: Toward a Critical Pedagogy of Visual Culture. *Studies in Art Education*, 44(3), 197–213.
<https://doi.org/10.1080/00393541.2003.11651739>

Tavin, K., & Tervo, J. (2018). How Soon Is Now? Post-Conditions in Art Education. *Studies in Art Education*, 59(4), 282–296.
<https://doi.org/10.1080/00393541.2018.1509263>

Urchegui Bocos, P. (2018). *Pensamiento visual y Educación*. Universidad de Valladolid.

Article received on 13/04/2021 and accepted on 01/07/2021.

[Creative Commons Attribution License](#) | This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.