

Practicum mediated by photo-elicitation: Contribution to initial teacher training and the professional development of the teacher-tutor

Prácticum mediado por fotoelicitación: aportación a la formación inicial docente y a la permanente del profesorado-tutor

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Abstract:

This article investigates to what extent teaching degree students, during the three months of traineeship in schools, converse about, reflect on and rethink their tutors' teaching practices through photo-elicitation processes to find professional development and improvement in both groups. A qualitative research methodology was used, focusing on the study of two cases. A photo-elicitation approach was implemented, guided by the trainee teachers to enable them to reflect on their tutors' practice in the classroom and school, through photography. The results indicate that the educational situations captured by the student teachers are of an instructional and formative nature, with a predominance of denotative and connotative levels in the content of the first group and of denotative, connotative and affective levels in the second group. The photo-elicitation process followed led to the development of three main types of relationship between the trainee teachers and their tutors, defined as confirmation, contribution and reference, which fostered complicity, involvement, joint responsibility and mutual professional development.

Keywords: teacher education, professional development, practicum, teacher tutoring, participatory reflection, photo-elicitation.

Date of receipt of the original: 2024-10-21.

Date of approval: 2025-02-26.

Please, cite this article as follows: Bautista-García-Vera, A., Romera-Iruela, M. J., Limón-Mendizábal, M. R., & Uxach-Molina, B. (2025). Practicum mediated by photo-elicitation: Contribution to initial teacher training and the professional development of the teacher-tutor [Prácticum mediado por fotoelicitación: aportación a la formación inicial docente y a la permanente del profesorado-tutor]. *Revista Española de Pedagogía*, 83(291), 347-362. <https://doi.org/10.22550/2174-0909.4251>

Resumen:

El artículo indaga en qué medida el alumnado del Grado en Maestro, durante los tres meses de Prácticum en un colegio, analiza, debate y replantea las prácticas docentes de sus tutores mediante procesos de fotoelicitación para conseguir el desarrollo y la mejora profesional de ambos colectivos. Se siguió la metodología de investigación cualitativa basada en el estudio de dos casos. Se aplicó un tipo de fotoelicitación dirigido por los maestros en formación inicial para que estos pudieran cuestionar las prácticas de sus tutores en el aula y en el centro con base en sus tomas fotográficas. Los resultados apuntan que las situaciones educativas registradas de forma visual por las estudiantes de magisterio participantes son de naturaleza instructiva y formativa; en su contenido, predominan los niveles denotativo-significativo para las primeras y denotativo-significativo-afectivo para las segundas. El proceso de fotoelicitación seguido ha facilitado la emergencia de tres tipos principales de interacciones entre las alumnas en prácticas y sus tutoras: de confirmación, de aportación y de referencia, que promovieron su complicidad, implicación y corresponsabilidad y el desarrollo profesional mutuo.

Palabras clave: formación del profesorado, desarrollo profesional, prácticum, tutoría docente, reflexión participativa, fotoelicitación.

1. Introduction

Academic literature shows a clear interest in understanding the situation of professional teaching practices in the third decade of the twenty-first century. Among other issues, it studies how agreements between university centres and schools should be established (Darling-Hammond, 2017; Mauri et al., 2021; Rachamim & Orland-Barak, 2018) to facilitate the transfer of teaching knowledge in the relationship between tutors and trainee teachers (Burroughs, 2020; Colén & Castro, 2017; Häggström, 2022). Agreements where professional experience is understood as a commitment, as an activity built jointly by the tutor or mentor and the teacher in the initial training stage (Allen et al., 2019; Falcón & Arraiz, 2020; Flores, 2019). Along these lines, White & Forgasz (2016) and McCardle et al. (2022) note the scarcity of studies that explore how school teachers and those who are preparing to be teachers in the future envision their roles and construct them socially. Mauri et al. (2019) and Mauri et al. (2021) indicate the need for future research for a deeper analysis of the interactions between the participants in the different areas during traineeship, as well as the discursive strategies that could help to encourage and consolidate collaboration between schools and universities. We aim to contribute to this with our research.

2. Theoretical framework

Initial teacher training and the professional development of the teacher-tutor has been addressed from different traineeship approaches. Among others, instructing school tutors in critical analysis using research-action loops (Betlem et al., 2019; Foong et al., 2018; Jones et al., 2021), or encouraging a wider awareness and reflection in terms of their beliefs, theories, identity and values, thereby improving these aspects and their decision-making about their teaching activity (Korthagen, 2017; Schön, 2016; Sinclair & Thornton, 2018; Weng & Troyan, 2023).

Schön (2016) proposed a model of reflexive practicum as a key element in professional education, with the following main characteristics: learning by doing, training or mentoring (coaching) instead of teaching, and a reciprocal dialogue involving reflection-in-action between mentor and student. This reflection is two-way: it tries to help students to master a type of reflection-in-action and involves a dialogue, when it works well, between the aforementioned people, which takes the form of reciprocal reflection-in-action.

Critical, evidence-based analysis of teacher training approaches led Korthagen (2017) to propose what he termed *professional development 3.0*. He understood this to be the process of aiming for

coherence between the different layers of the *onion* model, that is, between one's core qualities, ideals, sense of identity, beliefs, competencies, behaviour and the environment. Encouraging essential reflection and providing the teacher with regular information about this coherence can reinforce the teacher learning that occurs when theory, practice and person connect.

Among the elements relating to the quality of teaching preparation programmes, highlighted by Darling-Hammond (2020), there are two that are closely related to this research: experiences in prolonged, well-supervised traineeships, chosen with care to support the closely connected ideas presented during the course, and beliefs and practices shared by teachers in schools and universities, with well-established partnerships between these two institutions. For this reason, she recommends creating professional policies that involve investment in the above-mentioned educational partnerships for professional development.

Specifically in Spain, these traineeships take place as part of a subject called the Practicum, which basically involves students in their final year of a teaching degree being placed in a school, under the supervision of a teacher-tutor. Our study fits in with this activity but structures it around photo-elicitation processes (Collier, 1954; Harper, 2002; Torre & Murphy, 2015).

The contribution of this research lies in the fact that the photo-elicitation situations are aimed at the future teacher, that is to say, they organise the analysis, discussion and participation in the Practicum using photographs of moments in classroom and school life, photos that are also taken by the students of this subject, with subsequent viewing of the photographs and a discussion of their content by the tutors of the educational centre, the university and the students themselves. We understand that the benefits of this traineeship procedure, and the relationship between the academic and school environments, come from the progressive involvement and relationship of mutual help between tutors and student teachers that may be fostered in the photo-elicitation sessions.

2.1. Photo-elicitation in teacher training: Elements and procedure

The connection between photography and verbal forms, which convey the meaning assigned to the former by an interviewee in the investigation process, has given rise to a new procedure, termed *photo-elicitation*. This links data collection techniques from observation and survey methods and expresses two ways of presenting and communicating aspects of reality: the image and the word, leading to a fuller, more appropriate perception and understanding of these aspects (Rayón et al., 2021), since images, as indicated by Harper (2002), evoke deeper elements in the human consciousness than words do. Therefore, in the above-mentioned process, they provide different, richer information, containing feelings, memories and desires, all drawn from a deep and meaningful conversation.

In the review of this issue there is agreement that any photo-elicitation session requires elements that are material (mainly cameras, projectors, recorders) and human (students, teachers, external observers, among others), as well as an order to the interventions and the relationship between these elements (Bautista, 2023). McLaughlan (2023) and Walker et al. (2017) mention that this process involves two stages, with the first consisting of taking a photograph and viewing it and the second involving the participants' intervention about its content. The most frequent type of session is that which is initiated by a teacher who is committed to improving their teaching practice, who in turn is the author of the photographs regarding their own work (Dockett et al., 2017). Photo-elicitation has also been used when the images are taken by somebody from outside the classroom, such as other teachers or students' relatives (Richard & Lahman, 2015; Ruto-Korir & Lubbe-De Beer, 2012). Within this procedural structure, the photo-elicitation sessions have been designed with the purpose of questioning a specific teacher to discover their preconceptions (Birkeland & Grindheim, 2022), reveal contradictions and inconsistencies in their work (Savva & Erakleous, 2018) or analyse and understand student life in community settings (Lee, 2024; Walls & Louis, 2023).

Regarding who should speak and in which order, in the review of the studies using photo-elicitation situations, we have seen that there is a tendency for the people who take the photographs to speak first, which will make the above-mentioned process more dynamic. This practice is justified by the auteur theory (Mannay, 2017; Rose, 2001), which states that the

most important feature of a photograph is the motivation of the person who took it. The floor is then given to the other participants, in line with the proposal by Raven (2015) of questioning all the individuals present at the viewing of the image, in order to enhance the revelatory function (Barthes, 1989; Woolhouse, 2019) of the verbal elements that interpret the content of the photograph. In this regard, Golombek and Johnson (2017) recommend public scrutiny of the ideas and arguments provided by the author of the image, on account of the wealth of mental processes prompted by external observers in these educational settings.

Within this preliminary framework, our research explores and is based on two issues. The first involves analysing the educational potential of photo-elicitation in the teaching Practicum when the photographs are taken by students on teaching degree courses. The second concerns expanding knowledge about the relationships that arise between student teachers and their school tutors, that begin with the incorporation of photo-elicitation into their practices, by focusing on its impact on mutual learning.

3. Research objectives

We aim to meet three objectives. The first two relate to the first issue outlined and the third relates to the second issue:

- To understand the relationship between the experiences of students on Early Childhood Education degree courses during the Practicum and the photographs they take (representing situations that are unexpected or unusual for them) when they are in the classroom with second-stage pupils, who are 5 years old, or in other areas of the educational centre.
- To identify the degree of educational influence or significance of the photo-elicitation procedure guided by the trainee teachers in their relationships with the Practicum tutors at the school.
- To discover the frequency and types of interactions that are produced between the Practicum students and the school tutors during the photo-elicitation sessions.

4. Methodology

The kind of knowledge that needs to be built in order to meet the foregoing objectives deals with the special experiences of teachers undergoing their initial training and the types of relationships between them and their tutors, which entail involvement and mutual help. These interactions do not have unambiguous points of references to interpret and, consequently, it is not possible to measure them. These circumstances led us to use an interpretive research approach and a methodology that focuses on case studies (Stake, 2020).

4.1. Participants

As the research was conducted in a natural context, the requirements of the educational centres where the traineeships took place and their specific realities became the selection criteria. These were as follows:

- Having a high percentage of socioculturally diverse pupils.
- Belonging to the network of centres where students on teaching degree courses can do their teaching practice during the Practicum.
- Having civil service teachers in definitive posts.
- Obtaining the commitment to participate in this study from the management team at the educational centres.

Among the state schools in this network in the city of Madrid, there were three that met the foregoing requirements, CEIP (state primary school) A, CEIP B and CEIP C. Out of these, the last-named was chosen.

The two female teachers of the five-year-old pupils at this centre who met these criteria were the teaching practice tutors for two female trainee teachers at University X, chosen at random, from the 2021-22 and 2022-23 academic years.

4.2. Instrument

The instrument to collect the information in this study is part of the photo-elicitation situations (Birkeland & Grindheim, 2022; Raven, 2015), with recent studies having used it to determine the trainee students' point of view and interpretations (McLaughlan, 2023; Pirker et al., 2023).

In these sessions, the trainee is allowed to ask the centre tutor questions, as these are based on the content of the photographs that the trainee took at a specific moment to capture one of the tutor's actions or decisions that she did not understand and, so as not to interrupt the class, she had to save her question or doubt for the situation planned for this purpose. It may also help the aforementioned tutor because, in some way, she is required to clarify the theories and beliefs underlying her decisions and actions, which emerge from the images taken that are being analysed (Ndione & Remy, 2018).

Thus, we understand that these photo-elicitation sessions, apart from providing visual, verbal and textual information about the process, are spaces where both the tutor and the future teacher, who is currently on her traineeship, can express, interpret and question what has been observed, by fulfilling and performing the functions of teaching and learning. In turn, this dual educational function may provide mutual help that will strengthen the relationship between them and, in turn, the agreements between the university and school institutions where teaching practices take place.

4.3. Procedure

At the beginning, we obtained consent from the parents of the schoolchildren and from the centre itself, as we were committed to using this for teaching and research purposes. The Practicum students freely accepted the procedure. The names of the students, tutors and children have been anonymised. A higher ethical level was achieved by blocking out minimal areas of the photographs without creating a significant loss of comprehension and meaning. By doing so, we ensured that there were no negative consequences.

Within this context of ethical commitment, the students in the fourth year of their teaching degree and the school tutors were introduced to photo-elicitation by the director of the research group, who was the teacher-tutor at the university. The task schedule was established by mutual consent. In the week before the photo-elicitation sessions, the students were requested to take photos of the most significant events or tasks. There were 31 of these photos in total. The photo-elicitation sessions, eight in all, were held every two or three weeks while the students were at the centre, each with a duration of between 45 and 60 minutes.

Beforehand, the students provided their tutors with the photographs and sent them to the project director. During these photo-elicitation situations, the images were viewed and the students and tutors were invited to reflect, in a dialogue with two members of the research team, about their motivation for taking the photographs and about their doubts, and both researchers asked them questions about the content of these photos. A sound recording was made of these sessions and this was subsequently transcribed. The analysis of their content involved coding and the establishment of categories, mainly based on the data (Gibbs, 2012; Rapley, 2014). However, those identified in previous studies were considered. Following this, we interpreted the data and drew conclusions.

We classified the students' motivations when taking photographs, based on the work by Bautista (2013), into two categories: instructional and educational situations, which were not mutually exclusive. The former were the situations oriented towards acquiring instrumental content such as reading or calculation, among others. The latter were aimed at developing the mental processes of perception, analysis and reasoning, as well as introducing values accepted within the educational community, such as respect or empathy, among others.

The information presented in the photographs was classified according to Barthes' (1989) typology, which consists of three levels: the connotative or physical reference point, the denotative or meaningful, and the affective.

We analysed the type of relationship between the student teachers and their tutors, in line with the aforementioned inductive route, in two contexts and stages, as there were no previous categories for analysis. Firstly, the participating groups (student teachers, teacher-tutors and teacher-researchers) agreed to read the transcripts of two photo-elicitation interviews, chosen at random, one for each student, and in a discussion session they conceptualised the relationships of mutual help and involvement, and complicity in these terms: group of actions, attitudes and verbal expressions apparent in the interactions between the trainee teachers and the tutors at the educational centres, in which they showed agreement and joint responsibility by their willingness and intention to foster the personal and social development of their students. Five types of interactions were identified in this conceptualised category:

- a) Reference to the other person: type of interaction defined as one of the teachers or students referring to the other as the grounds or reference point that motivates or justifies a proposal for action, or a decision taken in the classroom.
- b) Confirmation of something the other person has said or done: relationship that occurs when both people, student and teacher, intervene consecutively and the second one confirms what the first person has contributed.
- c) Contribution: intervention that either the tutor or the trainee teacher performs following something the other person has expressed, to contribute an idea, datum or argument that leads to a better understanding of the content being analysed or the activity being described.
- d) Confirmation and contribution: type of interaction where one of the two people, the trainee or the tutor, as well as confirming what the other person has said, adds some information or a meaning that improves the argument or idea being presented.
- e) Simultaneity: temporal coincidence of the same response by both people.

In the second stage and context, the research group analysed the transcripts and, in the analysis of the interactions, moved to a more detailed level, thereby identifying six new types. These were also validated by the students and tutors:

- f) Concatenated contributions: consecutive and continuous interactions between a student and her Practicum tutor about certain aspects of occurrences in the classroom or centre, in order to answer each of the questions raised by an external observer-researcher to describe or explain the school tasks recorded photographically.
- g) Request for confirmation: interaction based on a request, by the student to her tutor or vice versa, for assent or validation of what the other person has previously expressed.
- h) Shared satisfaction: relationship identified by the emotional utterance of a student and her tutor caused by specific student behaviour, either individual or as a group.
- i) Questions: interventions in which a student or a tutor requests information from the other person during a photo-elicitation session.
- j) Clarification: utterance by a student or tutor to clarify the other person's previous statement, in order to gain better understanding of a content or element of the activity being analysed.
- k) Evaluation: positive comment by a student or tutor about the activity, in the classroom or the centre, or about the decision the other person took.

For each photograph, we collected the data obtained from the classifications and other complementary specifications, such as the tutors' evaluations after viewing the photographs, changes or the inclusion of actions indicated in the photo-elicitation sessions, and the requests made by the students to their tutors. Table 1 shows a small sample.

TABLE 1. Sample of data on motivation and level of information in the photographs, including evaluations, changes and interactions during the photo-elicitation sessions.

Photograph	Session no.	Motivation	Level of information	Evaluation by tutor M	Changes or inclusions of actions	Requests made by the Practicum student A to her tutor	Mutual involvement and complicity	
							Type of interaction	f
	1	(I) Difficulty in acquiring a habit: "When a pen doesn't work, you throw it in the bin"	(D) Physical situation. (CN) What do I do with a pen that doesn't work? (A) This is a way of attracting attention (asking for affection)	Affective: "You have to bear in mind what this child is going through"	(SP) Instead of repeating the rule (throw the pen in the bin), ask them "What do you think you should do?"	No	(R) E.g., "As tutor M says" or "Explain that, SP" (C) E.g., "Yes, yes" (SP)	2
	3	(I) Constructions with recycled material in psychomotricity class Successful activity	(D) Image of construction. (CN) Success of the task (A) Satisfaction with happiness as a result of the completed task	Conceptual: "It's true that we recycle a lot of things in class. But they also love this activity"	(SP) This game gives a new meaning to the rods, encouraging mental agility using constructions	Yes. SP mentions that her tutor consulted her "Would you like us to laminate the sheets?"	(R) by SP (R) by TM (C) 1 each (CO) by SP (CO) by TM	3 1 2 3 4

Note: C = confirmation; CN = connotative; CO = connotation; D = denotative; A = affective; I = instruction; TM = tutor M; R = reference to the other person; PS = Practicum student A; e.g. = for example.

5. Results

For the purpose of meeting the first research objective, we analysed and cross-checked the frequencies obtained in the categories relating to the motivation for taking the photographs and the levels of information they represented (see table 2).

TABLE 2. Number of photographs taken according to their level of information and educational purpose.

Level of information	Educational purpose	
	Instruction	Education
Denotative and connotative	13	10
Denotative, connotative and affective	6	8

The students took the photographs with an almost identical educational and instructional intention. These images each presented two or three levels of information, with about half of the instructional photos lacking the affective level, while this level had a similar presence in the two educational categories. The experiences that the students perceived as special were significant and the link connecting the cognitive dimension with the affective, with the expression of emotions and values such as understanding and empathy, was one of the components of educating both the schoolchildren and the trainee teachers.

A more detailed analysis of some of the reasons stated by the students in relation to the second objective reflects qualities pertaining to the educational value of photo-elicitation.

- Looking for a solution to a pupil's lack of instrumental behaviour.
- Refraining from using a worthwhile procedure that the trainee teacher does not know about.
- Recording an activity that works well.
- Studying and looking for a solution to pupils' difficulties.
- Feeling helpless after trying several actions.
- Request for help when faced with developmental delays or difficulties with comprehension and language.
- Noticing a major change in a pupil.
- Appearance of a regulatory-affective conflict in relation to a child's behaviour.
- Arousal of a student's tenderness as a result of the schoolchildren's behaviour.
- Noticing a relationship between a colour and a child's mood.
- Surprise at the positive influence of stories on schoolchildren's attention span.
- Checking a pupil's ability.

48.4% of the photographs generated requests from the trainee teachers to their tutors, such as questions, confirmations or suggestions for instructional activities (for example: "Why do children have trouble learning the concept *quantity* with the roll call?"). Others involved evaluating children's specific behaviour or difficulty and led to educational analysis, such as the one mentioned above regarding "the power of storytelling to hold five-year-olds' attention and encourage them to participate". The tutors answered instructional requests by

providing practical knowledge, while they responded to the educational ones using affective expressions, such as the following: “With such huge shortcomings, you say ‘My goodness, of course these children are going to be like this’”.

The very complexity and dialectics that emerged in the photo-elicitation interviews involved moving from the instructional content to the educational in 40% of the students’ requests and in 35.5% of the evaluations and observations of their tutors (see columns 5 and 7 of Table 1). Such requests, evaluations and observations explained the grounds for the practical knowledge, that is to say, their theories and beliefs in action. For example: the visual support comes first and it is the basis for mental calculations; compensating positive reinforcement with autonomy, integrating affectivity and behaviour; modifying conduct by giving children tasks to avoid unsuitable behaviours; including procedures that encourage students to think and take decisions.

The interventions by the external teacher-researchers proved to be a source of reflection and investigation for the two students and their tutors, as these interventions represented questioning that was at times the result of a deviation from the planned tasks or of the decisions taken in view of unexpected situations in the classroom. Of the eight interventions involving the tutors’ answers, six were educational, for instance, referring to the “dilemma of whether a child should repeat a year or not”, or about “families’ involvement in children’s adaptation to school”. Additionally, after the above-mentioned interventions by the external observers, the tutors and trainee teachers maintained a common position and were united in their answers to the questions put to them.

In relation to the type of interactions between the trainee teachers and their tutors, the results, recorded in our third research objective, are illustrated in column 8 of Table 1 and Table 3 shows the quantity of the results. These students contributed 12.9% more interactions than their tutors. This greater prominence is in keeping with the recording function of the school images in photo-elicitation processes. Both students interacted in all the sessions, with an increase of 16 to 22 interactions for one of them and 13 to 17 for the other.

TABLE 3. Interactions established by the students and their tutors in the Practicum.

Interactions	Students		Tutors	
	f	%	f	%
Reference	36	78.26	10	21.74
Confirmation	86	64.18	48	35.82
Contribution	54	43.20	71	56.80
Confirmation and contribution	3	33.33	6	66.67
Simultaneity	7	50.00	7	50.00
Concatenated contributions	13	50.00	13	50.00
Request for confirmation	2	100.00	0	0.00
Shared satisfaction	1	50.00	1	50.00
Questions	1	100.00	0	0.00
Clarification	0	0.00	2	100.00
Evaluation	2	100.00	0	0.00
Total	205	56.47	158	43.53

The most frequent type of interaction was *confirmation*, which rose to 36.9%. This assent by one of the people regarding what the other has done is one of the most important indicators of the good relationship of agreement and mutual support between the students and the tutors during the traineeship. The trainee teachers lead 64.2% of these interactions by agreeing with what their tutors have said. In their evolution throughout the photo-elicitation sessions, there is a notable decrease, both from the students (from 11 to 4 and from 13 to 7) and from the tutors (from 10 to 5 and from 8 to 2). The results demonstrate the significance of this interaction in building connections of mutual help and complicity. This decrease as the sessions progress is in parallel to the increase in other relationships and a change in the roles.

The second place in relationships is for *contribution*, with 34.4%. In this category, it is the tutors who have contributed more, with 56.8% of these interactions, due to their greater practical knowledge. Throughout the process, we can see a considerable increase for one of the tutors (from 8 to 15) and the students (from 3 to 4 and from 3 to 8), while there is a very slight drop for the other tutor (from 8 to 7). This tendency represents an improvement in the relationship of help and coexistence between them, as the trainee teachers progressively contribute information that complements the information provided by their tutors, a fact that involves a greater degree of joint responsibility in the classroom.

The third type of relationship in order of importance is *reference*, with 12.7%, coming mainly (78.3%) from the students. This difference relates to the reference to the teacher's authority, their proven professional experience and the institutional role that they initially hold. In the case of the tutors, the relationship remains stable throughout the sessions, while it shows a slight growth for the students (from 2 to 5 and from 3 to 4). This, as they indicated, is because the good relationship that was created with their tutors gave them access to their knowledge, which the students were able to use to analyse and understand the teaching and learning situations in the classroom.

The other types of relationships identified which have contributed to the complicity and mutual help between students and tutors, albeit less frequently, correspond to interactions that enable the nature of this connection to be clarified and further understood. Two of them are derivatives of contribution: *concatenated contribution* (7.2%) and *confirmation and contribution* (2.5%). The former indicates the function that the agent, who is external to the classroom, may have, as their interventions requesting information about the reasons for actions and decisions lead to a union of joint responsibility between the tutor-student pair. Equally, as the researcher gradually linked questions to the answers given, a dialogic relationship emerged in their interventions. We could say that this dialogic relationship has fostered learning and mutual professional development. The interventions by the external agents likewise explain the interaction defined as *simultaneity*, which represents 3.9%.

Other relationships such as *shared satisfaction*, *request for confirmation*, *questions*, *clarification* and *evaluation*, although they have only occurred sporadically (together they represent 2.5% of all the interactions), demonstrate aspects of closeness, openness and affection between these students and their tutors during the Practicum.

In view of what has been expressed by the trainee teachers and their tutors, we can state that these 11 identified interactions are an indicator of the constant exchange of teaching-learning actions performed by both sides, and, consequently, of their teacher and student roles, which shows and confirms their shared professional development.

6. Discussion and conclusions

These results provide evidence of the educational value of photo-elicitation in student teachers' Practicum and in their school tutors' professional development, as it fosters relationships of help and co-operation, and of complicity, leading to mutual learning. This

statement is supported by Schön (2016), who mentions the benefits of a Practicum that involves reciprocal reflection-in-action, and by Darling-Hammond, who endorses the quality of this formative period.

This procedure has driven in-depth training of the trainee teachers, in accordance with their needs and interests, by making them question, explore and reflect on the whys and wherefores of the actions and decisions taken in the classroom and the centre. Their requests for information and the dialogue with their tutors and the external agents have enabled them to understand the basis of their experiential learning through the explanation of their tutors' tacit and formal knowledge, also providing the latter with a means of observation and reflection, as well as a reconsideration of their practices. These findings are consistent with those obtained by, among other authors, Monforte-García and Edo-Agustín (2024), as they reveal that photo-elicitation has helped Practicum students to reflect on and understand educational inclusion, with the teacher-tutor as its backbone, in particular through emotional intelligence. They are also in line with the results obtained by Rezvani (2024), as they indicate that the affectionate relationship between teacher and student is essential and plays a crucial role in the student's learning.

Additionally, photo-elicitation has provided ways of observing and communicating, as well as the teaching and learning of knowledge, feelings and values among teachers, both in their initial and in-service training, who have expressed and confirmed their shared professional development. This result endorses the multidimensionality that, according to Korthagen (2017), is present in teacher learning. The visual procedure proves to be a powerful tool for essential reflection.

Our research also provides evidence that confirms other results from the few previous studies that have indicated the value of photo-elicitation in exploring and reflecting on professional educational practice, being aware of and reflecting on the beliefs, theories and values involved in educational work and its transformation, as well as fostering thought and in-depth learning of teachers in initial and in-service training (Lee, 2024; Ruto-Korir & Lubbe-De Beer, 2012; Savva & Erakleous, 2018; Sinclair & Thornton, 2018; Stockall & Davis, 2011). At the same time, it presents new information that reveals the type of relationships that have developed with the use of this approach in the Practicum, an aspect that has been advocated in specialised literature (Mauri et al., 2019; Mauri et al., 2021; Schön, 2016).

Without a doubt, the results obtained from the two cases examined have a limited scope and would need to be considered in subsequent works. In our opinion, applied photo-elicitation, with the constitutive structure of the sessions, proves to be suitable for initial and in-service teacher training during the practicum, as argued and detailed in previous publications (Bautista, 2023; Rayón et al., 2021). For this reason, we recommend it for this line of research, although the modality to adopt will depend on the epistemology and the objectives to be achieved. We believe that it is worth registering the procedure in a participatory epistemology (Heron & Reason, 1997), involving more students and teachers in one centre or, even better, in several centres.

Regarding the special experiences photographed by the trainee teachers which are referred to in the first objective, we conclude that both have recorded instructional and educational situations in similar proportions. That said, in relation to the levels of information of the images, in those with an instructional purpose the use of *denotative and connotative* is double the amount for *denotative, connotative and affective*, while in the educational images both levels are used in almost equal proportions.

With reference to the second research objective, the photo-elicitation procedure based on the prominent role of the two trainee teachers in the photographic record and as they were the first to speak in the sessions, has encouraged these future teachers to be dynamic and flexible about analysing the whys and wherefores of the teaching practice implemented in the classroom. The structure of this process of investigation with and about the photographs, in which the researchers' intervention as external observers has monitored the students and tutors, has led to shared reflection and discussion focused on life in the two classrooms and

the centre. This threefold relationship between the educational agents has increased their knowledge and professional development.

Finally, regarding the type of interactions between the trainee teachers and their school tutors referred to in the third objective, the results demonstrate the emergence of three main types of interaction based on complicity and mutual help, defined as *confirmation*, *contribution* and *reference* to the other person. These, along with the other kinds of mutual interaction detected, consist of the need to provide a joint response to the questions or an explanation of the actions and decisions taken in the classroom and captured in a photograph. We should add to the foregoing that all these interactions are the result of the continued exchange of teaching and learning experiences and the role of joint responsibility that was gradually developed, practised and perceived in the classrooms and the centre.

Authors' contributions

Antonio Bautista-García-Vera: Conceptualisation; Data curation; Visualisation; Writing (original draft); Writing (review and editing).

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María-Rosario Limón-Mendizábal: Conceptualisation; Data curation; Writing (review and editing).

Belinda Uxach-Molina: Data curation; Visualisation; Writing (review and editing).

Artificial Intelligence (AI) Policy

The authors do not claim to have made use of Artificial Intelligence (AI) in the preparation of their articles.

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