RECONSTRUCTING TEACHING IMAGE IN LESSON STUDY[1]

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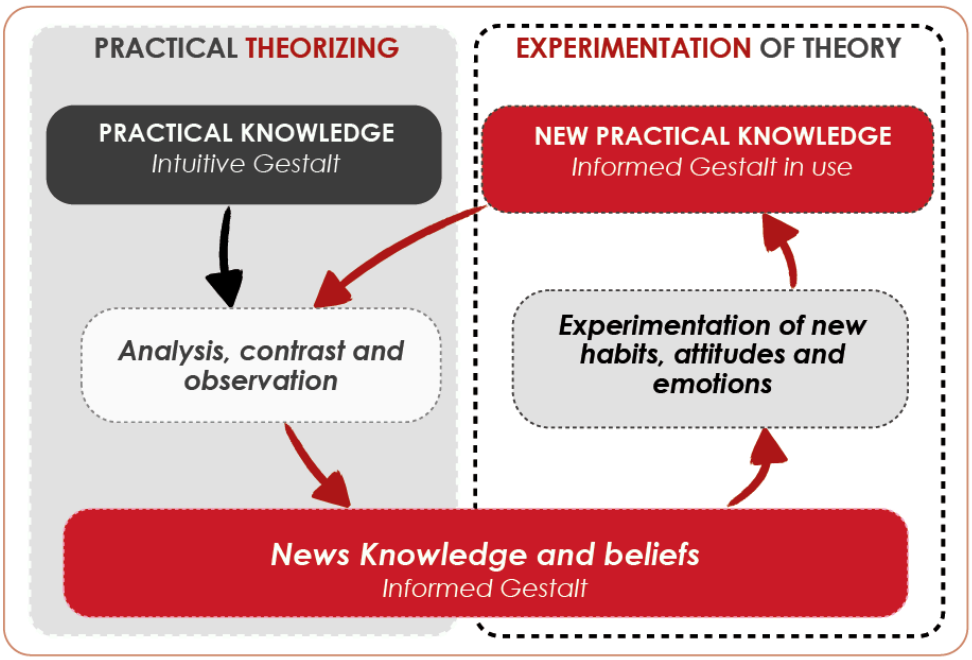
This communication presents the results of a research project focusing on the pedagogical potentiality of Lesson Study for initial teacher training. Specifically, we focus on the potential of Lesson Study for student teachers to rebuild their teaching image. We begin by presenting our starting point, namely the theoretical framework built over previous research projects, followed by the methodology used in this research. Finally, we present the evidence obtained with regard to the reconstruction of teaching image throughout the LS process.

Background and theoretical framework

Previous research projects focusing on in-service teacher education have allowed us to test the usefulness of Lesson Study in reconstructing the practical knowledge of teachers, leading to the development of their practical thinking (Soto et al., 2015).

We have defined practical knowledge, or *knowledge-in-action* by Schön (1998), as the set of beliefs, skills, values, attitudes and emotions which operate automatically, implicitly, without the need for consciousness, and which influence our perception, interpretation, decision making and action. *Practical thinking* fulfils a more holistic, systemic function and includes *knowledge-in-action* and *reflective knowledge-on-action*. In other words, it comprises all resources (conscious and unconscious) which we, as human beings, use when trying to understand, design and intervene in a specific personal or professional life situation.



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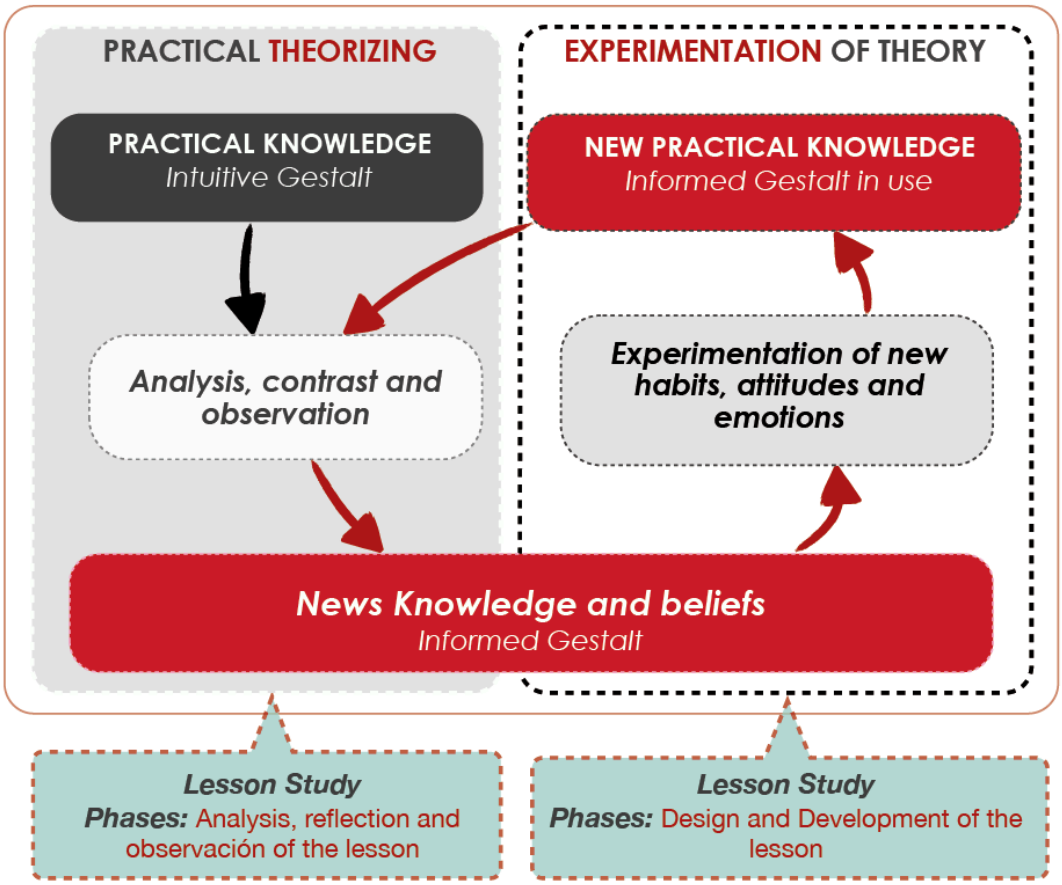
In our previous research we focused on the importance of there being two interrelated processes when moving from knowledge to practical thinking: practical theorising and experimentation of theory. The *practical theorising* process involves provoking and stimulating teachers to identify, analyse and reformulate our practical knowledge. In synthesis, practical theorising is the reflection of the teacher on his or her own practice, his or her own way of acting, in light of more relevant educational experiences and of the more consistent results of educational research. However, it should be remembered that *reflection "on" action –practical theorising–* is not the same as *practical thinking*. We must convert new personal theories into concrete, sustainable, streamlined forms of interpretation and action, i.e. experimentation of theory. This moment therefore requires giving more relevance to the experience, practice and experimentation of new ways of perceiving, designing, making decisions, relating and acting, rather than remaining alone in the analysis of our practical knowledge. In consequence, practical thinking undoubtedly requires both complementary movements to converge: theorising practice and experiencing the new theory.



We have realised that Lesson Study, in its different stages, propitiates these processes of practical theorising and experimentation of theory. Within the framework of the Lesson Study process, the theories which sustain teaching practice come to light fundamentally at moments of reflection, analysis and observation of practice. We have been able to identify and stimulate these moments mainly in stages one and two, when defining the problem and cooperatively designing the experimental lesson, and in stages three to five, during

observation and analysis of the experimental lessons. Experimentation of theory takes place, above all, in the moments of development (initial and improved) of the experimental proposal.

The aim of this research project, for which we present part of the results, is to analyse the possibilities offered by Lesson Study in the context of initial training for the reconstruction of the practical knowledge of student teachers through cooperative design, experimentation and assessment of curriculum-making projects. In this regard, the curriculum can be seen as creation or recreation based on generating proposals, and involves a creative process by the teacher, who interprets classroom life and recomposes and redirects his or her forecasts in line with events and requirements. The teacher is therefore a creator of circumstances, a builder or creator of the curriculum (Clandinin and Connelly, 2000).

Methodology

The project is developed through several case studies dealing with experiences of using Lesson Study in initial teacher training at Málaga University. This paper focuses on a Lesson Study case study process developed as part of the subjects Practicum III and Degree Essay, which are seen in Year Four of the Early Childhood Education Degree course. Our case comprised an LS group of six students tutored by the same teacher, who carry out their practical training at four different schools. One of the students was chosen for further study.

Research context

These subjects are closely related to each other. The regulations of Faculty of Education of University of Malaga establish that the subject Practicum III must consist of a period of practical training lasting four months in a pre-school centre (ages 3 to 6 years). During the Practicum III, students must design an Autonomous Intervention Project, showing their ability to diagnose, plan and develop an educational proposal in line with a given context in their practicum centre. The Degree Essay focuses fundamentally on reflection on the Autonomous Intervention Project completed, analysing its strengths and weaknesses, and the improved design of this proposal by incorporating the learning developed throughout the process.

This structure is conducive to developing the seven Lesson Study stages over the two semesters of the course, providing ample time to complete the entire process. The different seminars with the students are structured in accordance with the Lesson Study stages as the Practicum III develops. The Lesson Study is presented in the first seminar, and, over the course of one month, the students collect information in their diaries on the interests and needs of the children they work with, and also on their own training requirements as teachers. This is pooled in the second seminar, where the focus of the Lesson Study is defined. This is followed by a bibliographic review process, which prepares them for designing the experimental lesson in the third and subsequent seminars. This design is developed in the two experimental lessons, where students switch between the

roles of teacher and observer. The evidence gathered in seminars is analysed with the tutor after each experimental lesson. Once the Practicum III has been completed in the second semester as part of the Degree Essay subject, there is a process involving more in-depth analysis of the evidence gathered during the experimental lessons, the search for a new focus and a bibliographic review, in order to put forward a new improvement proposal. This process culminates in the presentation and public defence of the Degree Essay in an expanded context.

The information collection strategies we chose to research the case were observation, interview, documentary review and the researchers' diary.

Observation	**6 seminars, 1 work meetings, 2 experimental lessons, tutorials and defence of the Degree Essay**
Interviews	Two group and two individual interviews, at the beginning and end of the process.
Documentary review	All versions of the Autonomous Intervention Projects (LS design) and the portfolios and LS of the student chosen for further study.

The seminars (6), a work meeting of the group of students, the two experimental lessons, the Degree Essay tutorials between the tutor and the student chosen for further analysis, and the defence of Degree Essay were all observed.

Group and individual interviews were carried out with the selected student at the beginning and end of the process (four in total).

The different versions of the Autonomous Intervention Project (experimental lesson) designed by the group were reviewed, as well as the portfolio and Degree Essay of the chosen student.

All information was transcribed and categorised for analysis. As indicated above, this paper presents the results of the reconstruction of teaching image through the LS process.

Reconstructing teaching image

To this end, we will present evidence of the different Lesson stages that shows how they have been reconstructing this teaching image.

Defining the problem and designing the lesson: practical theorising

As indicated above, after the first seminar (in which the Lesson Study is introduced), the group of students spends one month collecting evidence of the needs and interests of children in each of the practical training classrooms, entering it in their practice diaries. This evidence, as well as the information of their different practice contexts, is shared through the group space created by the

tutor in the online portfolio application, providing feedback and facilitating this process.

This serves to make them realise that the teaching role they have experienced as pupils, and that many of them and their professional tutors develop, is characterised by the teacher being the centre of educational action, stifling children's autonomy and not allowing them time to gather information about their learning; a transmissive, interventionist teaching role in which there is an abuse of prizes and punishments. The students come to realise that they want to build a teaching role in which the children play the lead part, and begin to question aspects that were previously unproblematic. The practical theorising process is under way.

They realise that, in order to reach the desired teaching role, they have to carefully design a context in which children can act for themselves while they, as teachers, are on hand for guidance or accompaniment. They therefore begin to reconstruct their teaching image, starting to see that their work does not involve directing the educational action, but rather creating contexts in which children can develop this action themselves (context designers), facilitating this process (guiding, mediating, or simply accompanying) and observing it carefully (observers).

Based on the needs and interests collected from the children, together with their concerns, that are pooled at the second classroom-based seminar, they believe that a proposal focused on art and nature may be suited to their curriculum-making project.

The problem to be researched in developing the Lesson Study therefore focuses on improving the teaching role, in order to achieve greater fluency in the classroom "loading our backpack with less structured strategies and activities that we can work on in the classroom" (Definition of the focus of the Lesson Study). Moreover, they propose bringing childhood closer to nature and offering art as a language to express their emotions.

This is followed by several weeks of bibliographic review of this focus, after which it is time to meet and decide on a design. This takes shape in a proposal focused on free activity in environments and, specifically, an environment centred on artistic expression with natural materials called Natura.

When designing the project, they progressively specify what the teaching role to be developed should be. They think carefully about it, both in the third seminar with the tutor and in several working meetings in which the tutor is not present.

Firstly, they focus on carefully designing the environment in order to ensure the children can be autonomous.

> *L.: I would put it here, simply so they can work in front and behind and also on the sides.*
> *I.: Ah, on the sides! So the children can get inside.*
> *Au.: The table… are we only going to use one?*

L.: Three.
Au.: Table, the table.
L.: One table, of course.
Ma.: One thing that has just occurred to me. How about the boxes on the floor, eh? Ask the pupil to play around with the materials there. Do you really think children are going to just pick up the materials and go to the table to do a string activity or to paint? At this moment, I think children will do anything there. If we want to bring them back to the table, I think we could put some material on it.
L.: But in this case we are telling them that this material… indirectly, we are saying that this material is used here and not the other.
Ma.: Yes, but…
An.: They can do it there in the box. This is here in case the pupil feels like sitting down.
L.: Exactly, I think that's a good idea. The tables don't have to be there. I also think that's a good idea.
Ma.: Okay, will keep it there as an option and that's it.
L.: Exactly, if children want to sit on the floor and do it on the floor, then fair enough. If they see the table and think it is more comfortable, then they sit there. That's it.
Ma.: Okay, okay.
An.: The idea is that they experiment, so...
Ma.: Wherever they want and... that's it.
An.: If they want to paint, fine… Or if they want continuous paper at the table, then I'll bring it over… whatever is most comfortable for them. We cannot tell them anything. We are not going to tell them: you cannot take the continuous paper, as in this case you would be creating a restriction.
La.: As long as the materials are not dangerous and I do not have to intervene, because they can also get out of hand. (…). Let's see, we are going to put consumables closer to the table, so at least they... Consumables. So, although cannot we say anything, we can suggest things by setting out the material in different ways, right? If you put the box of consumable materials closer to the table, in some way you are inviting them, and maybe they will, maybe they won't… But maybe it is more likely that they will go to the table to work because it is closer, and they're going to be more comfortable. (Work meeting, video 83, 13:37-15:11/16:08-End. Video 84 to 0:16)

In this conversation we can see how the consequences of positioning each of the resources to be used in the environment are carefully thought about, giving consideration to what these resources will suggest to children and how they can be placed to ensure they learn in accordance with the goals set. This fragment clearly shows one of the essential characteristics of the LS, along with others we will see later on: cooperative construction of the design and shared reflection on it, and the richness of contrast between all the members of the group.

Secondly, they focus on how their intervention should be to accompany the children and promote their free experimentation, as a prerequisite for relevant, meaningful learning.

L.: Provoke and co-build, and stimulate thinking. This would include, for

example, what Aurora said: What if the pupil is going to paste a shell which we know the paper is too flimsy for? Well, part of our teaching role can be to provoke or question or...
I.: The action, or what the pupil wants to do, will not be possible at this moment...
Ma.: But that takes us back to directing, right?
Au.: No, you are not directing, you are questioning.
L.: Of course, it shouldn't be redirecting but rather getting the pupil to question the best way to do it… I mean, if the pupil decides to use a stone, naturally it is going to fall down... again and again, until the pupil gets frustrated, picks up the stone and punches the whole thing, upsetting it all.
Au.: Or you realise ... As I said before, you realise, don't you? It falls and the pupil says: Please Miss! It just keeps falling! How do you think you can paste it? What can you do about it?
L.: Exactly, never tell them to do something else. But rather get the pupil to think about what can be done.
Ma.: We know the pupil is going to say: But Miss, I can't...
L.: Yes. Never intervene just because you don't think it looks good or something.
Au.: Of course, you are not going to say: Just stick it with glue and that will hold it together! No! You can't do that. You say: How do you think you can do it...? At least that's what Celes [professional tutor] has taught me to do, to ask questions of the pupil.
Ma.: Yes, but remembering that the pupil has to come and ask you first… I'm not going to offer help unless I am asked.
Au.: Of course!
Ma.: That's what I meant.
L.: The teacher's role is to generate reflective thinking (Third seminar, video 7, 3:13-4:47).

This is an example of a conversation in which we discuss, in significant depth, how to help the child to develop the skills autonomously through questioning, always refraining from directing the action and running the risk of preventing this autonomous construction.

The tutor makes this process easier by providing a table of teaching responses, allowing them to envisage specific situations and how to deal with them. Here is an example of how students agree to resolve the situation referred to in the previous dialogue.

CHILDREN'S SITUATION	***REACTION EXPECTED BY THE TEACHERS***
They want to paste a shell and it keeps falling off.	*- What can you do?* *- How can you achieve it?*

(Autonomous Intervention Project, p. 61)

The tutor also provides an observation table to collect information on children's learning, which helps them define the teaching role of observers. The first column of this table is used to set out the project's goals, the second column is to hypothesise on the evidence they can obtain from the children developing this

learning, and, finally, a third column is to record any observations made in the experimental lessons through notes or photos.

GOALS	*EVIDENCE*	*OBSERVATIONS*
The pupil has made artistic productions with the material offered.	*We will observe how they use the material and what they do with it, whether they act on their own accord or, on the contrary, need a guide or guidelines.*	*At the beginning, the way the material was organised meant it was difficult to make the artistic productions, because they thought it they would not be able to get it out of the boxes. But later, when they saw that they could take it out, they began to develop their creativity and make the productions.*

(Autonomous Intervention Project, p. 66).

First experimental lesson: experimentation of theory

Once the design is finished, it is time to experiment with the theory in the first experimental lesson. When it comes to the first experimental lesson, they find it difficult to implement the design, despite the in-depth work carried out beforehand, and the student teacher seems quite absent. This is so evident that both researchers reflect it in our observation diaries:

> *On several occasions pupils came up to Mo. to show her what they had done, but at no time did she show any interest... not leaning down to look at them or expressing any admiration, simply "Ah, yes" and "Very good"... (it could be said that she was afraid to intervene and not fulfil the designed role)* (Cristina in the researchers' diary, p. 50).

> *Mo.'s attitude is not very interventionist, and I would even say she is distant. When the children go up to her to show her what they have done, she just says Oh good! or Great! and pays little attention to them. I do not feel her presence.* (Mª José in the researchers' diary, p. 50).

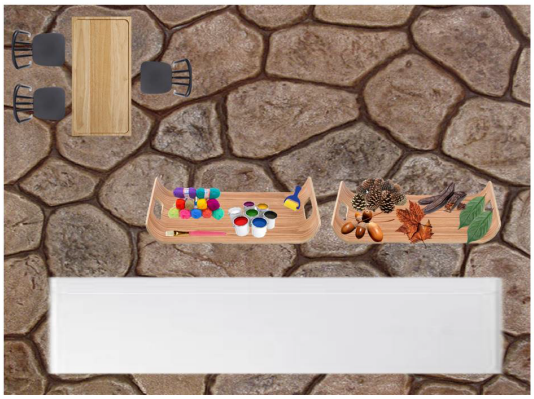
In general, the whole group is far away from the children, which also prevents the observers from collecting information properly.

This demonstrates the importance of experimenting with theory in order to realise the difficulty of implementing the espoused theories we are constructing from practical theorising.

Experimental lesson first review stage: practical theorising

When reviewing the first lesson, they again undertake a process of practical theorising, which leads them to realise –prompted by the tutor's carefully-chosen questions– that they had not specified their teaching role in sufficient detail. This helps them to further deepen their understanding of how to develop this role in the second experimental lesson.

There are profound changes in the context, as can be seen in the images, in order to give the children greater autonomy and to present the proposals contained in the environment in a more suggestive way. Once again there is a detailed discussion on how to arrange the material in order to encourage the autonomous development of skills. They decide to take the material out of the boxes and place it directly on the floor to make it easier for the children to experiment, and there is in-depth reflection on how to distribute this material as coherently as possible in accordance with the goals set.



There is also a detailed reflection on how they can accompany the children in this process of autonomous skill development. They question themselves and realise they have not been able to accompany the children, remaining very distant. It is important to highlight the role of the tutor and how, through her suggestions, examples and questions, she helps direct the group's discussion towards a more individual, innovative curricular construction. Let's look at an example in which they discuss how the observers can act to obtain better quality evidence.

> *L.: When we are observing, we also have this freedom to approach the children and to, although we do not intervene, take notes close to them, at their side. Or is it better to do it at a distance?*
> *Tutor: That's something you have to decide based on what you see. But, for example, do you think it would have made a difference today to have been a little closer to the children? Often this is necessary to document, to get evidence of the processes...*
> *La.: Yes, of course, then we can take pictures of their faces and listen.*
> *Tutor: That's right, transcribe conversations...*
> *L.: I've done some, but only a few since it was difficult to hear well from…*
> *Tutor: Maybe not all the time, but get up close occasionally…* (Seminar after the first experimental lesson, 25:30-26:07).

We believe that such evidence shows the need for moments of shared reflection on the details gathered in the experimental lesson –implying practical theorising–, guided by the questions and suggestions of the professional tutor, who stimulates this theorisation process with references and examples. It is at this point that the group can visualise and specify exactly what constitutes a teaching role that allows them to encourage, accompany and record the pupils' leading role in the educational process.

Second experimental lesson: experimentation of theory.

This leads to a much more favourable context being presented in the second lesson, with the student acting as the teacher developing her role of mediator between children and the resources made available to them in a much more efficient manner.

Video 4642 (4 minutes)

This shows the importance of a second experimental lesson in order to improve the first one, increase the level of satisfaction with the development of the proposal, and reconstruct the theories-in-use.

Experimental lesson second review stage: practical theorising

The seminar after the second experimental lesson once again allows us to reflect cooperatively on the practice, based on the evidence gathered, and to identify aspects for improvement as we look to reach our goal. The students realise that, although on this occasion they have been more present and have affectively accompanied the children, they still have to improve when it comes to putting forward proposals that mediate between the children and the materials provided.

The structure established by the Faculty of Education for these subjects allows this stage of assessment of the second experimental lesson to continue in depth in the second semester of the course, when drafting the Degree Essay. As mentioned, there was one student we followed with more attention in order to further analyse the process, allowing us to see how, at the start of LS, she had clear ideas on how to act as a teacher but was unsure of how to implement them, and how LS allowed her to test them and hone her performance through to a more flexible, rich, balanced posture:

> *In the last practical sessions I was able to combine those aspects I had a clear idea about, such as this one, not interfering in children's learning when I have to guide them, but rather letting them find their own path… I mean they don't need the approval of an adult, that is something I am now sure of… as well as the teacher's involvement from the point of view of Celes [professional tutor in previous practical sessions] … being a little more, how would you say, observant, yes, more observant. Moreover, these practical sessions have made me realise that perhaps my role as a teacher, and as a person, requires me to be more present, no? Perhaps not being as observant as Celes but, apart from observing, having a little more involvement with*

the children on a daily basis (second interview with Laura, second video, 13:25-14:29).

Indeed, she decided to focus her Degree Essay on the teaching role, showing her understanding of the teacher as the curriculum-maker. This leads her to focus on emotions, lay the foundations of her theory, and set out her improvement proposal focused on the teaching responses table, constructing much more nuanced responses to the different situations that may come about. Let's see what the example presented above looks like:

They want to paste a shell and it keeps falling off.	*- What can you do?* *- How can you achieve it?*
New proposal *First, it is essential to know what emotional state the boy or girl is going through. In this case, they may feel frustrated since they fail to achieve what they crave. But on the other hand, this moment may be generating a process of development and learning, pushing the pupil to continue investigating, to find possible solutions by themselves… So, as teachers, we need to remain attentive and stand by to allow pupils to exercise their own autonomy.*	

(L.'s Degree Essay, p. 36).

Conclusions

Stimulated by the practical theorising that takes place in the first Lesson Study stage, which defines the problem in question, the students can now start to create an innovative curricular project in which pupils take the leading role, helped at all times by the tutor's theoretical contributions, feedback and questioning in the seminars. This means moving the teacher away from the centre of the educational action and paying special attention to the meticulous design of the context, of the teaching intervention during the development of the proposal as mediators between the children and the environment, and of the tools to observe what is happening. The experimentation of theory that takes place when developing both experimental lessons allows the theory built by the group to be put into practice and evidence of this process to be collected. The practical theorising that takes place in the analysis and review of the experimental lesson stages allows in-depth study of the teaching role to be developed. This journey from theory to practice, and from practice to theory, allows student teachers to reconstruct their image as reflective teachers who are continuously researching their own practice, in order to create contexts where children can develop competencies autonomously and observe them in such contexts, collecting information that will form the basis for further improvement.