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FLOWERS TO LEARN METHOD;  
DESIGNING LEARNING PROJECTS  
A PHENOMENOLOGICAL STUDY FROM THE STUDENTS’  
PERSPECTIVE

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**Abstract.** This research responds to the need to reflect on how to interweave curricular theory with teaching practice in initial teacher training. This study proposes some keys to respond to this possible dichotomy between theory and practice in teaching with the creation and implementation of the Flowers to learn the pedagogical method. This method is structured based on teaching practice with a professional commitment to respond to the demands of a changing society. This involves learning to design contextualized projects that generate creative processes and meaningful learning experiences capable of provoking the mobility of resources and the transfer of knowledge.

We want to know how students perceive and express their experiences and expectations of learning with *Flowers to learn*. In order to carry out the research, two semi-structured open-ended qualitative interviews were implemented among students of the Primary Education degree in the Teacher Training Centre La Inmaculada, University of Granada (Spain). We have a sample of 207 participants. This design offers the possibility for the students to express opinions, points of view and interactions that provide content and depth to the discourse. It is a study based on a qualitative methodology from a phenomenological design, which favors the emergence of peculiar structures and forms of articulation of the participants’ educational events.

From the analysis, five categories are established: motivation, learning experience, visualization, comprehension, organization and difficulty. Subsequently, the following sub-

categories resulting from the analysis of the categories are presented. These are teaching differently, new ways of learning, sustainable learning, transfer, reflection, critique and awareness.

It concludes with conclusions and discussion for improvement in teacher education.

**Keywords:** teacher training, pedagogy, curriculum, visual thinking, learning process, project, method *Flowers to learn* (FtL), phenomenology approach.

## INTRODUCTION

We are observing deep changes in our society. Due to the pandemic crisis, we have experienced radical transformations, which have underlined the interdependence in our lifestyle. This is mainly remarkable in the field of education. That is why we may wonder how we can respond to the demands of a changing society in the initial teacher training. There are many challenges, dealing with the uncertainties, like anxiety and fear, cooperating and living together in these open and changing contemporary societies.

The *curriculum* can be defined as the systematization of the teaching and learning processes as a unit. This implies reflecting on how we teach. It seems to be licit to take into account the following questions: How to unravel a curricular logic of the educational system? How to establish bridges between theory and practice, between the curriculum design and the development of it? How to translate the curricular and methodological dimensions into learning situations?

Teachers do not usually know how to provoke contexts and situations for the transfer and mobilization of teaching and learning resources (Bolívar, 2010). Gimeno (2008) considers that teaching is inherent to learning processes, to the extent that these methodologies and practices generate new knowledge, interest or attitudes in students. A radical change in teaching practice requires a different approach focused on teaching (Herran & Fortunato, 2019).

In this study, some keys to explore the competence of how ‘teaching to teach’ are proposed. We point out some relevant research in this regard, such as deep learning for learning to teach (Domingo, 2015) and visible learning (Hattie, 2011). According to Prange (2005), it is necessary to distinguish between visible teaching and invisible learning; we can see the changes and progress, but not the learning itself, i.e. we have access to the phenomenon of visible and indirect learning. Thus, we should question how learning manifests itself, as a result of the teaching practice; what we expect from students; and what we really do when we teach.

Teaching, as showing something to someone, can be considered as a way in which learning is provoked. In the teaching-learning binomial, it depends on us, as teachers, to go deeper into the teaching processes. To focus on teaching and to make it the center of the changes and the innovation may become the main matter of our education work.

Finally, it turns into a crucial question to focus on how we can materialize and should concretize these ways of teaching practically. Teaching cannot be reduced to just practice, devoid of any intellectual dimension; not even can totally be reduced to the instrumental, focusing the debate on the technical questions of efficiency and effectiveness (De la Herrán & Fortunato, 2019). We usually move between the achievement of the educational program and objectives, resulting; or responding to life and social needs, by expanding the curriculum and thus enabling a flexible and a dynamic educational programme. That is why it turns into a priority to develop resources, to adapt to these new contexts and needs. To achieve this goal, new attractive resources are necessary, to spark and maintain students' interest and motivation.

## 2. FLOWERS TO LEARN: A NARRATIVE IN FOUR MOMENTS

The Flowers to Learn (FtL) method can be defined as a process for designing didactic projects. A coherent logic for students and future teachers, to learn how to integrate the different elements of a curricular project in a creative way. It consists of a resource, structured and planned based on learning situations. Curricular elements to achieve a relevant social product are articulated.

The originality of this method lies in its novelty: it is possible to develop all these procedures through a didactic cartography, based on drawings, conceptualized from elements of nature. This simple methodology makes it possible to facilitate the understanding and interrelation of the parts. FTL combines the curricular-structural dimension with emotional-creative aspects. This design method will become a very useful tool for university students in their future work as primary school teachers because this way of teaching will allow them to visualize the whole project and facilitates its implementation. It is also an effective means to transfer knowledge into new contexts.

Through FtL, a greater understanding of complex concepts is achieved. It facilitates the visualization of the global processes of thought (Fig. 1). This requires resources such as images, concept maps, mind maps, diagrams, graphs and cartography (Hernández & Sancho, 2019). In addition, to facilitate the association, analogy and mnemonic exercises, cognitive and socio-affective processes are brought into play for greater assimilation of the basic knowledge. FtL approach is structured in four interconnected moments or phases, which are described below:

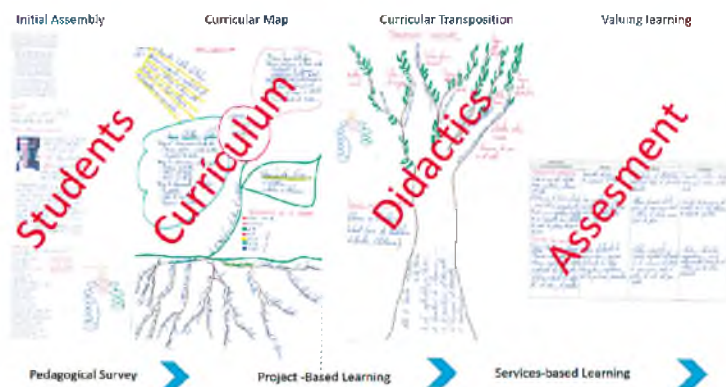


Fig. 1. A narrative in four moments

## FIRST MOMENT – INITIAL ASSEMBLY

We must always start with a motivating element: what does motivate students' interest and attention? There are many situations or circumstances or triggers that become a motivating element and that can be promoted through an initial assembly in the context of the classroom.

The assembly becomes a privileged space-moment to generate learning situations in an active methodology, based on projects. There are different ways of planning an assembly, but they all have the same objective: to educate observation, listening and oral interaction, in order to share, make common decisions and to act based on specific, personal and collective experiences. They all agree to formulate a starting question on which the project should revolve and propose the final task as a relevant social product that catalyzes, orients and gives meaning to the project. It constitutes the focus for selecting and organizing the curricular elements that are structured in the following phases.

The motivating elements in an assembly can be: new items, events, happenings or unforeseen events like a photograph, any fact based on the interests of the students, their needs and life contexts.

The assembly should proceed according to the logic of the *pedagogical survey: see-judge-act*. It is a learning strategy that makes possible the acquisition of a dynamic for action. Thus, in the student 'sleeping' motivations come to the 'surface' (Rodriguez, 2010:115). The assembly allows the collective of students to considerably increase their enthusiasm by focusing collective attention on concrete learning, through a common interest.

It also allows teachers to know and to understand students better, by establishing relations based on respect and coexistence. This implies a more effective and affective experience of communication. In short, it is a matter of favoring spaces, times

and “teachable moments oriented curriculum practice” (Pinar, 2014), which is to say “pedagogical moments” (Van Manen, 2010). It turns into a priority to generate learning situations, through project/problem-based learning; and service-learning, by the pedagogical method focused on see-judge-act (Lorenzo 2012).

## SECOND MOMENT – CURRICULUM

Drawing up a ‘didactic flower’. This phase aims to visualize the curricular and structural dimensions of the project using a flower (Fig. 2).

It is not easy to know and handle the educational legislation. For teachers in training this becomes a challenge. FtL aims at teaching how to search for, select and organize information, relate curricular elements, interpret, apply and create interdisciplinary curricular designs, coherent with a competence approach (Bolívar, 2010).

The organization and selection of the different contents, i.e. basic knowledge, is drawn in the flower (petals, leaves and stem). These contents are a set of knowledge, skills, abilities and attitudes which contribute to the achievement of the objectives and the acquisition of the main skills. The main objectives are related to the rays of the sun and the evaluation criteria, to the roots. The competencies, in turn, are derived from the analysis of the assessment criteria and are reflected inside the cloud (Table 1).



*Fig. 2. Didactics flower and its curricular – structural dimensions (Rodríguez, 2021)*

Table 1. Second moment

Image of the flower	Curricular elements	
Drawing	Design	Process
Centre (stamens and pistils)	Key question	Learning situation
Rays of the sun	Objectives	Basic knowledge
Petals, leaves	Contents	
Stem	Transversal contents	
Roots	Assessment criteria	Assessment
Cloud	Key competences	

We can see, recognize and contemplate the flower. Moreover, we can observe in the roots the anchor, invisibly and even mysteriously, “...there was a mysterious LIFE down there that I did not know about until then. Every sprout that emerges from it – the earth – is for me a true miracle” (Han, 2019: 32).

### THIRD MOMENT – DIDACTICS

Consists of drawing up a didactic-pedagogical tree to visualize the methodological and practical dimensions of the project (Fig. 3).

The main question is focused on applying and developing the pedagogical methodology; becoming aware of how to do, and how to act, how to proceed and sequence the activities, how to teach (Prange, 2005: 59). It is based on a cooperative teaching style and active pedagogy. In the tree, we can basically identify the trunk, the branches and the leaves. The trunk is linked to the methodological guidelines, from which we draw the branches that establish a sequence of the different types of activities, oriented towards a final task that we call ‘relevant social product’.

There are five branches to differentiate five types of activities: introduction, development, consolidation, reinforcement and extension. In each branch, six sheets are differentiated to collect the six elements we must take into account in each of these activities: description of the task-activity, time, spaces, cognitive processes, groupings and resources required (*Table II*). To elaborate on this design it is necessary to take into account the guideline of the main aspects: viability, coherence, proportionality and concretion.



Fig. 3. Didactic tree and its methodological-practical dimensions (Rodríguez, 2021)

Table 2. Third moment

Image of the tree	Didactic	
Drawing	Design	Process
Trunk	Methodology	Teaching methods
5 branches	5 Different types of activities	Time sequence
6 leaves	6 Elements for each activity	
Relevant social product	Final task	Diffusion and transfer

## FOURTH MOMENT – ASSESSMENT

Development of a rubric. We search for the final assessment, focusing on what we have learned thanks to the elaboration of assessment instruments, particularly the rubric. This tool turns into a crucial element to verify the level of acquisition of competencies. We also consider other tools such as portfolios, interviews, diaries, etc. it depends on the possibilities we have to disseminate the most relevant and social product we have obtained to generate knowledge transfer.

Finally, we cannot forget a relevant aspect: to evaluate the design and the process of the whole project. It is necessary to confront the answers we found to the initial question. To achieve that, we must go back to the starting point to see what we have learned, and if we have achieved the objectives. This process always concludes with new questions that generate new educational projects.

To summarise, we can conclude that the Flowers to Learn (FfL) method facilitates the interdisciplinary creativity, breaking with the subject-based learning and specialization (Lledó, 2019; Epstein, 2019). Working by projects will allow students and teachers to put theory into practice, what is to say, to move from the concept of subject to the concept of the field of knowledge. Therefore, this method

will help to simplify interdisciplinary relationships. Drawings, concept maps and metaphors contribute to the visualization of the whole creative process. A coherent narrative is articulated by the confluence of different moments. It aligns the different curricular elements and assembles all the active methodologies, mainly, the *pedagogical survey* (Rodríguez, 2010: 129), the project-based learning, problem-based learning and the service-learning.

## 2.1. THE POWER OF THE IMAGE OF THE FLOWER

We use the image of the flower to understand the pedagogical and methodological implications of the interdisciplinary (Rodríguez, 2018). We employ the image of the flower as a prelude to the imagination. The image impresses us, not because of what it shows, but because of its meaning. “We never observe only one thing; we always observe the relationship between things and ourselves. (...) An image is a vision that has been recreated or reproduced. Every image incorporates a way of seeing” (Berger, 2016).

Imagination is situated in a kind of intersection where perception, memory, idea generation, emotion, metaphor and, no doubt, other important aspects of our lives intersect and interact. Innovation in the field of ideas has almost always been linked to the power of the imagination to ‘see’ the solution to problems. Our emotions seem to be linked to these mental images. The logic of imagination seems to conform more closely to the logic of metaphor than to that of any scheme of rationality that we can expose (Egan, 1992).

Using the image of the flower, like that of the tree, as a model for a project design has shown interesting implications. It is a familiar element, directly linked to the everyday experience. On the one hand, this helps us to visualize the connection among all the curricular elements. On the other hand, it is based on the application of a creative strategy that can be implemented in any context, both if we count or not on resources. This can become an opportunity in unprivileged contexts. It can also be developed in different settings and with all kinds of learners. Flowers have a great resonance of inclusiveness and diversity, of beauty, of strength and weakness at the same time. A flower is a natural and alive element, full of possibilities.

According to Rodríguez (2010), we can identify and distinguish five areas in any educational process: the person as a biological being who grows and develops; as a cultural being who is capable of learning and knowing; as a philosophical being who investigates in pursuit of truth, reasons and considers the problematic nature of everything he or she believes to know; as a moral being who is capable of perceiving virtue; and finally, as an artist who can taste, savor and create beauty.

We will focus on the last one: the artistic, aesthetic and beautiful fields. This is the one in which human beings attain the highest degree of experience and activity. As we have previously underscored, the prevalence of the instrumental often

prevents us from opening the curricular horizon to the artistic, “few teachers in faculties of education manage to escape the trap of the instrumental, apparently constructed from the position of little confidence in the teaching profession” (Pinar, 2014). This binomial, artistic and instrumental, is the result of the fragmentation and specialization of knowledge in isolated subjects. It is urgent to overcome this rupture and to recover the full meaning of the intellectual work, thus turning the process of teaching and learning into an authentic and fruitful act of creation and recreation. With FtL we understand that the proposal to move and transform subjects into areas of knowledge can be considered as the ideal to achieve.

### 3. METHODOLOGY AND DESIGN

#### 3.1. METHODOLOGY

The basis of the pedagogical phenomenology of learning can be considered as a priority for the training of future teachers (Costa, 2018). Phenomenological pedagogy implies letting oneself to be carried along by the ‘reality of education’ and assuming the possible consequences of the evidence which are found through the descriptions. It is true that no manifestation exhausts the being itself; that is why this research must be open to a permanent dynamism within the scientific community. We must clarify that phenomenological pedagogy is inexhaustible and concrete investigations are small steps that show, not demonstrate, phenomena that at the same time are revealed and hide other aspects of the fact. The multidimensionality of the human being in its relational version makes inexhaustible this vital reality

Researching experiences in education, specifically teaching and learning processes, are always linked to a double process that feeds back on each other: deconstructing and understanding; thus being able to mature and propose new possibilities for the educational reality, according to new horizons, needs and meanings.

It is necessary to illuminate the internal structures of this experience in order to prepare to act in a different way, i.e. the occurrence of the event makes it possible to act.

Lippitt- Rittelmeyer (1990) describes an interesting and comprehensive overview of the current situation, specifically, in Europe. Some authors suggest different ways of asking the basic questions in the pedagogical field: How do different currents of thought behave towards the pedagogical fact? Is it possible to make descriptions of being in educational phenomena? How could we interpret pedagogical concepts such as experience, play, image, understanding, and memory? (Brinkmann et al., 2017).

From an empirical perspective we must highlight the Utrecht School, which focuses on the participatory or shared experience, including educational agents as a characteristic of the phenomenological method; they approach their work from an

accurate description of the educational thought or fact. Max van Manen's research approach and methodology are unique in the context of the qualitative methodologies, i.e. those dedicated to understanding the meaning of experience and/or human and social phenomena.

For a phenomenological understanding of the text, we cannot forget the perspective of William F. Pinar (2014). In his vast bibliography this author deeply explores this phenomenological perspective of educational theory and research. He underscores that the first experience conditions language (text). That delimits it and allows it to be understood.

A complete or definitive systematization and evaluation have not been still achieved, when it proposes a pedagogy from a phenomenological perspective; this may be a problem or rather an opportunity to keep on reflecting on this path, which is full of suggestive intuitions.

In this plurality of phenomenological approaches, we believe that there is a common aspect: a starting point without previous references and setting at the foundations the observation of the evident facts that facilitates a reflexive awareness, thus transforming the deep meaning of education.

We are going to carry out a methodological approach to access to the deeper dimensions of the experiences. The reading of the texts allows us to highlight significant insights into the experience.

Therefore, a qualitative methodology was employed in the design. As mentioned above, the phenomenological methodological approach was chosen because it reaches aspects and realities that could not be approached by other methodologies. Thus, it can be underlined that phenomenological research promotes the emergence of peculiar structures and forms of articulation of the participants' educational events (Costa, 2018).

### 3.2. INSTRUMENT

In this context, we analyze the categories that emerge from the interviews. In this case, from the experience and perception of the students who have learned through the Flowers for Learning method in the subject (6 credits) *Didactics, theory and practice of teaching*, belonging to the second semester of the first year of the Primary Education Degree. In this analysis, we focus on showing how teaching through the Flowers for Learning method influences students' learning experience.

We categorize the description of the meanings that have been determined as essential for this study from a phenomenological reading. Thus, a completely open observation has been adopted. Categories emerge from this analysis. The aim is to access students' meanings about the learning experience, in order to conceive, design, develop and evaluate didactic projects. This requires being familiar with the current educational legislation in the Spanish education system.

To carry out this research, two semi-structured open qualitative interviews were implemented among university students with a Primary Education degree. This methodology offers students the possibility of expressing opinions, points of view and interactions which provide content and depth to the discourse.

The interviews were conducted using a specially prepared interview script (Annex I), which served as the basis for the discussion. The qualitative questionnaire was developed from observation, brainstorming and literature review. It is composed of 12 items that measure the main aspects of evaluation and internalization of the FtL method. In this way, the level of effectiveness of the method and the possibilities of implementation in other different contexts were measured.

Two sessions were undertaken, before and during the Covid-19 health crisis. These sessions were recorded and transcribed to analyze the contents. The categorization, following the developed and implemented structure, was carried out together with the data analysis by a panel of experts in the area of higher education. The panel was composed of three experts, two in Didactics-Pedagogy and one in phenomenology.

### 3.3. PARTICIPANTS AND DATA COLLECTION

The data collection took place at two different times, in order to contrast the information and check whether the health crisis situation showed differences in the students' perceptions. Therefore, a questionnaire was implemented, with an interval of several months of differences. The first of the questionnaires were sent online in October 2019 to all 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup>-year students who took the FtL method in the subject of Teaching Practice, Theory and Practice. At the time of collecting these data, these students were no longer related to the subject and were supposed to assimilate a posteriori the methodology, implemented in the subject. It is important to provide feedback over the years and to note the imprint and the benefits that they have been able to see over time.

The sample consisted of primary grade students (N = 70), excluding first-year students (Table 3–4). Permissions were requested from the respective coordinators and the dean of the faculty. The age of the participants ranged from 20 to 45 years, with a mean age of 23.6.

Table 3. Gender distribution

Gender	Frequency	Percentage
Women	32	45,7
Men	38	54,3
Total	70	100,0

## Student profile by year

*Table 4. Participants by Universities*

Course	Frequency	Percentage
2º	35	50
3º	31	44.3
4º	1	1.7
Not valid	3	4
Total	70	100,0

The second of the questionnaires were sent to the students of the first year, after they had studied the subject and worked with the FtL teaching method. The survey was also sent online to the students in June 2020. In this case, the sample ( $N = 137$ ) was almost twice as large as the first one. Anyway, this sample of students did not have time to internalize the methodological issues in depth. In this case, the respective permissions were also requested from the subject coordinator, department director and dean of the faculty.

*Table 5. Participants in the second questionnaire. First-year students*

Gender	Frequency	Percentage
Women	65	47,4
Men	72	52,6
Total	137	100,0

Age ranged from 18 to 49 years, with an average of 21.4. The recommended time to complete the questionnaire was 25 minutes. In this second case, we cannot forget that on 24 March 2020, a state of emergency was declared. There was a radical and unexpected change that affected all the sectors of society. Teaching changed and had to adapt to the online modality; and previously unknown difficulties had to be overcome, both in the case of students and teachers. To adapt to this new situation, to keep on with such an active and practical methodology, turned into a challenge, so the answers to these questions (in the case of the second questionnaire) became especially significant.

### *3.4. DATA ANALYSIS*

The collected data were analyzed by the panel of experts we have explained above. The information was read, classified and tagged a categorization of the main aspects was established with the help of the QDA Miner software. After we have

analyzed these data, the key categories were determined by an expert judgment consensus. The following categories were obtained, in line with the implemented instrument (Table 6).

*Table 6. Categories obtained categories by an expert consensus*

Categories
Motivation
Learning experience
Visualisation
Comprehension
Organisation
Difficulty

In accordance with the aspects most highlighted by the students and which were detected after the analysis by the panel of experts, these categories were further subdivided into subcategories.

*Table 7. Categories obtained subcategories by an expert consensus*

Categories	Subcategories
MOTIVATION	Teaching in a different way A new way of learning
LEARNING EXPERIENCE	Longlife learning Transfer Reflexion Critical thinking Awareness
VISUALISATION	Drawing Imagine Creativity Beauty
COMPREHENSION	Understanding
ORGANIZATION	Order
DIFFICULTIES	Limitations

In addition to the categorization, the distribution of the information and the proposals made by the students, the most significant textual quotations expressed by the participants were included in the results. To comply with data protection

principles of any qualitative research of this nature, the anonymity of the students was preserved.

#### 4. RESULTS

We present the results below. They have been ordered, according to the categorization we have described above. We also present the most relevant statements expressed by the students. We must take into account that these affirmations constitute the most interesting contributions to the FtL method. In any case, the results can be extrapolated to another different methodologies and contexts, those which are based on visualization and serve to increase student motivation. The identification of the questionnaire item referred has been identified next to the textual quotation.

##### *CATEGORY 1. MOTIVATION*

*Teaching in a different way.* “It is based on actuality and therefore on the interest of the student. It is contextualized and encourages student motivation and teacher observation. Moreover, being multidisciplinary makes it more attractive for students and cooperative for teachers” (1.2). “It is a new way of learning and we like it more” (12.3). “Very enjoyable makes us get more involved” (5.1). “It is a different method and attracts attention” (22.2) so “He/She teaches in a different and fun way” (7.2). “A very original way of learning the same tedious contents” (22.1). “Effective and original” (21.1). Just as the see-judge-act pedagogical survey is based on the dynamic action, FtA “is action-oriented learning” (30.1) precisely because it is based on the guidelines of an active methodology.

*A new way of learning.* “I learned a lot with this method and this way of teaching” (2.1). “You learn in a different way” (9.1). “The flower method of learning has helped me a lot with the legislation and it is much more practical, easier and easier to carry out”. “At the beginning I didn’t see the point of it” (8.3). “It was a bit difficult and I was quite scared, but when I did several projects and had all the steps well learned, I started to like it and I did them with more and more enthusiasm” (7.3). “I learned and became interested in a subject that I thought was boring” (1.1), “It turned out funnier and easier than I previously expected t” (5.3). “The flower method has been a great discovery. It is the first time I have used this methodology and I found it very interesting. As a teacher I wish I could have the imagination of the teacher to teach something so complex in a beautiful and fun way. I think it is a great project and initiative that will be of great help to many students. For me, it has been a great success” (2.3).

## CATEGORY 2. LEARNING EXPERIENCE

*Durable learning.* “To this day I can affirm that I still remember everything perfectly without the need to go over anything” (6.1) “It is not easy to forget” (10.2) “I have realized that it is very useful and it will be useful for the whole career and the whole profession” (8.3) “A guide that is useful for life when it comes to developing projects” (1.2), “I have learned a lot and it will come in very handy in the future” (1.1) “I know how to do projects for children and I can teach them many things” (1.3) “to teach any subject” (6.3)

*Transfer* “Global learning of all subjects with different activities” (8.2) “It is incredible, I think I will copy it and put it into practice when I am a teacher with my students, it is a good method to teach any subject” (6.3), “it is a great tool” (15.3). “Important for our working future” (18.3) “I think I will use it all my life because it is not only efficient, but also beautiful and easy to do” (2.3)

*Reflection* “Anyone can learn how to do educational projects” (12.2). “I have acquired a lot of strategies that I didn’t know and it teaches me not to be afraid of change” (2.3). “Honestly, at the beginning of the course I thought that you didn’t explain it or that it wouldn’t help us at all, but now that time has passed I think that I master this method quite well and that it is a very original teaching method” (12.3).

*Critical thinking.* “It seems to me to be a very peculiar method, but at the same time dynamic, because it is obvious that it is not the most common thing to carry out this method in a university” (17.3). “It would be necessary to bring together the teachers of the school that requests it and gives this type of training in the continuous training that they carry out during the school year. Otherwise, I think I would never be able to put into practice what I learned through flowers” (8.1). It is important to generate real learning experiences. Students so request it to “perfectly combine all the elements that are required in curriculum planning and to give a high value to practical learning, which is what today’s students are demanding” (13.2).

*Awareness* “Through it you learn legislation (in its first stages) in a pleasant and almost unconscious way, you become familiar with the curriculum and its components and finally you learn how to elaborate a UD (didactic unit; the one you have heard about but is a great unknown until you come to the method Flowers to Learn (12.1). “You learn without realizing it” (11.3). “That it is a practical method for learning because, even if it seems like you don’t, you do learn and even more” (13.3). “At the beginning you don’t understand it and it creates more uncertainty than well-being, but the more you advance, the more you realize that you have learned a lot, almost without realizing” (14.3). “I was surprised to learn so much with this method” (19.3) “I find it a method that at the beginning seems very complicated, but at the end you realize that you have learned the legislation almost without being aware of it” (20.3).

### CATEGORY 3. VISUALIZATION

*Drawing.* “It easier to internalize it better because you make a conceptual map in your mind about the curriculum and its usefulness” (13.1). “Also, visually it completely eliminates the law book and becomes colourful and dynamic (dare I say even fun)” (1.1), “I think it is very visual, so if you understand it, it will make it more convenient” (2.1). “That it is a very visual method and with the flower everything is clearer and more conceptual, it is a very good basis for learning how to draw up a UDI (Integrate Didactic Unit) and a Project” (7.2), “as you make something boring like legislation more fun by having to draw” (9.3).

*Imagine.* “It helps you to organize yourself, besides it is something basic to learn and it is even better if it is in the shape of a flower” (17.2). “I think that the flower we developed ourselves will stay with us forever” (12.3) because “by doing it ourselves, it has more individual worth. We were able to imagine incredible activities for our future children. It also gives us the courage to give free expression to our imagination in teaching” (2).

“It has simply been to put light into the darkness, and to give shape to the nothingness we had at the beginning, as the subject was a real hieroglyphics, and through the flower it has all been much easier, legislation, documents and others through the drawing everything can be visualized better and with a predetermined order, and having its beginning and end, you know where to walk” (1.3) “It is a good method to learn and can increase creativity”. (11.3)

*Creativity.* “You can learn concepts with graphics and metaphors and “flourish” the imagination (9.2) “We can open our minds and innovate” (6.2) and “unleash your creativity” (4.2). “It’s like a jigsaw puzzle, you start acquiring knowledge piece by piece, to end up forming a picture that was abstract at first and you end up understanding it” (19.2). “Helping us when it comes to organization, both visually and technically. It is also a method that makes things very easy for our future work as teachers” (4.1).

*Beauty.* “It has a design with which you can visualize the ideas very well, drawing a flower, with its petals and leaves, the sun, etc. In addition, the colouring gives you a look that also helps you to retain the ideas” (1.1). “Because in a beautiful flower you have something not as beautiful as legislation and it makes it easier for you to understand and organize it” (8.3).

### CATEGORY 4. COMPREHENSION

*Understanding* “At first it’s a scary method because it gets larger and larger and everything is new. It also includes legislation and just the word alone makes you nervous. But I must admit that once it is done it is very rewarding to see how you

have achieved it and how everything has been so tidy, the most important thing is that I ended up understanding everything I had written” (11.3)

„I find it interesting, practical, fun and something that at first seems very complex has turned out to be simple and I feel that I have learned a lot” (5.3), “to acquire concepts and squeeze the mind” (7.3) “It helped us to understand concepts that were rather abstract” (2.1) “At first I had trouble understanding it but now it is something very dynamic and I have ended up liking it” (14.3). “Working such a complex thing, for sure, if it had not been like this, we would have forgotten it already and it would be more difficult for us to understand it and to know how to use it” (1.1).

“It is remarkable how the students themselves perceive that they have been able to understand something so complex. They consider this process as a wonderful discovery” (1.3), “otherwise it would have been impossible and we would not have found out” (2.3), “if it had not been for this method, I would not have learned so well” (3.3), “at the end you learn and know many things” (4.3).

### *CATEGORY 5. ORGANIZATION*

Order: It offers “a very effective way to organize a project, plus it is more bearable and fun to carry out” (13.1). “The biggest advantage I think is that you have a kind of conceptual map in your mind and it helps you to be more organized” (3.2), “it helps you to know how to organize well” (8.3), “it makes it easier to order all the concepts and to plan in advance what we want to do” (12.3). “You organize your ideas and you are always clear about the steps to carry out a project” (9.2), “It allows you to manage better” (12.2). “In a first moment, I could not see its value or finality” (8.3) and “It was such a hard method to me, and that is why I was rather scared” “However, after I had finished a couple of projects, I could take in every step; I started to like this method, and I found it more and more amazing” (7.3).

### *CATEGORY 6. DIFFICULTY*

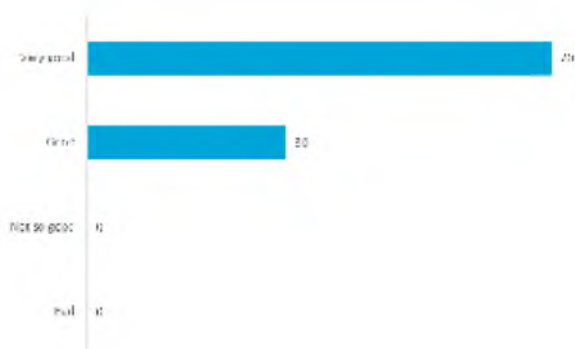
*Limitations* “We made too many flowers” (1.1), “sometimes too long” (7.3) “too much work” (13.3), (4.3) “A bit confusing” (3.1), “sometimes it has been tedious” (10.3). “There should be more freedom in terms of the graphic design of the map (It doesn’t have to be a flower)” (3.3) “I wish that we could have the freedom to study it in a different way” (12.3)”. Some difficulties pointed to the limitations students run into, due to the pandemic crisis of the COVID 19 and the adaptation we had from the face-to-face to the online teaching and learning modality. “I don’t find it practical when it has to be done, especially in an exam through digital platforms and with a limited time” (1.3). “If I had to put some negative points to this course, it would be that circumstances have not let us make the most of it because we were

not in face-to-face classes and the exam was a bit overwhelming because I did not know how to organize myself, perhaps. Even so, I am glad I was able to learn this beautiful method” (11.3).

Finally, apart from the categories, the students were asked in both cases to give an evaluation of the Flores method of learning. In the first group, this evaluation was based on the following item:

1. What is your global evaluation of the Flowers to Learn and what did you learn in the subject ‘Didactics, theory and practice of teaching’ in the 1<sup>st</sup> year?

70% Very Good and 30% Good.

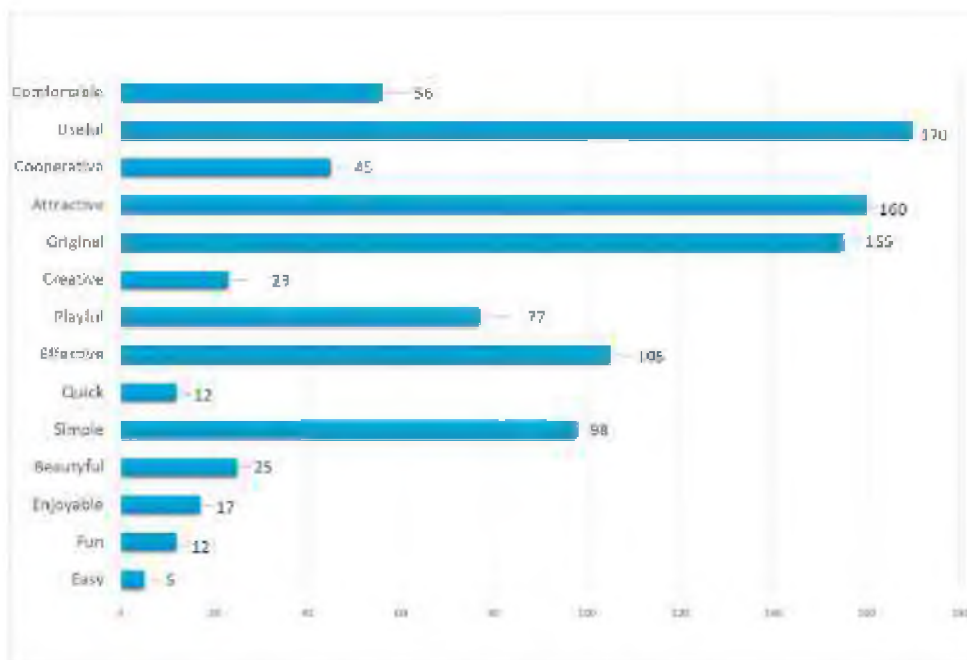


*Graphic 1. Percentage*

In the case of the second group, in the pandemic context, the general evaluation was based on an open question about the advantages of the method.

2. What do you see as the main advantages of Flowers to Learn?

Students express it with the following adjectives: easy, fun, enjoyable, beautiful, simple, quick, effective, playful, creative, original, attractive, cooperative, practical, useful, comfortable.



*Graphic 2. Qualities of the method*

## 5. DISCUSSION AND CONCLUSIONS

After we have analyzed both methodology and results of this research, we may conclude that the Flowers to Learn method engages the interest and calls the attention of students and teachers. This is mainly due to originality in the implementation of new teaching methodologies which implies different elements. As a matter of fact, one of the most striking features of this method is based on innovative components, which get away from the conventional methodologies in the context of higher education. Rather than focusing on interesting things, the FtL method leads to an increasing interest in learning, which is to say that makes learning more interesting and effective. In this sense, we may affirm that the traditional conception of the teaching and learning radically changes in their conception and processes. “We only come to understand those elements, realities and experiences which transform us” (Costa, 2015: 308).

Motivation grows by working (Enkvist, 2016: 58) and also when interest and attention are proportionally related to the ability of a specific methodology. This is especially relevant when a method generates a dynamic for action (Rodriguez, 2010: 153). The structure of FtL provides this crucial and innovative characteristics. Students state that “it is an action-oriented learning” (30.1).

In short, it is the way of proceeding, of transmitting knowledge and methodology in a very interesting and motivating way. It can be considered as a pedagogical practice to capture the attention of students in such a way as to produce an empowering recognition that culminates in effective teaching by achieving learning.

As we have seen, FtL is a method structured in four essential moments. Learning takes place in a meaningful way, breaking the linearity of learning and promoting interdisciplinary content and connections. This also contextualizes didactic and pedagogical relations. In this structure, the systematization of the teaching and learning processes converges with an *evocative narrative*.

These four moments which compose the FTL methodology can be grouped into two dimensions:

1) First moment and third moment. In this case, we describe, on the one hand to the initial assembly of the first moment as a starting point for the students. On the other hand, we must underscore the didactic-methodological tree in the third moment. Both steps are based on conducive to communication, expression and manifestation of ideas, thoughts, imagination and creation. They constitute essential spaces and times to generate learning, related to the development of cognitive and socio-affective processes.

2) The second and the fourth moment. In this case, we must describe, on the one hand, the design of the curriculum map in the second moment. Students must focus on selecting and ordering the curricular elements around a question. This moment is based on the drawing of the picture of the flower. We refer, in this case, to a wider concept, because together with the image of a flower, other elements of nature are related to each other, to complete the curricular landscape. On the other hand, the design of evaluation tools for a learning competence coincides with the fourth moment. The peculiarity of the last one is that it always ends with new questions to make it clear that a project is not a didactic unit: “the one you have heard about, but it is a great unknown until you get to the FtL method” (12.1).

In short, it enables complex conceptualization in a simple way. It is a visual method that allows the student to perceive the globality of the process and provokes the discovery of the logic, the parts and the coherence of the whole method. “The comprehension of the curriculum includes the pedagogy study” (Pinar, 2014: 83)

Students emphasized: “I think that the flower we developed ourselves will stay with us forever” (12.3). This is mainly due to FtL making the complexity simple and it also concretes what can be seen as abstract: “allows an attitude of facing the complex by overcoming fear” (12.4).

There are many visual methods based on cartographies. However, we must underline that the image has a unique and evocative power that facilitates the internalization, order and classification of the main concepts and elements. That is why many students considered that “visualization completely eliminates the law book

by moving to something colorful” (1.1). In this way, students can reconstruct the mental pathway to knowledge.

Often, imagination and creativity lead them over time to replace the flower with another schematic element. Thus, one of the limitations some students have underscored is based on the idea that “there should be more freedom in terms of the graphic design of the map. It doesn’t have to be a flower” (3.3).

FtL combines areas of individual and cooperative learning in a way that establishes pedagogical relationships and communicative environments to which their learning is linked. This study confirms that one person learns in a different way when one also teacher teaches with different and innovative methodologies.

FtL links the external world as expression and action with the internal world of thoughts, feelings, experiences and affections. It establishes a bridge between the visible teaching and the inner world, linked to the intimate and profound experience of learning, this implies a non-transferable experience that is made visible indirectly (Prange, 2005). Subsequently, this increases the awareness of the significant learning, because “you learn without realizing” (11.3). “It has simply been putting light into the darkness, and giving shape to the nothingness we had at the beginning, since the subject was a real hieroglyphics, and through the flower everything has been much easier” (1.3). “Concepts do not fall from the sky: they are formed and developed from a network of experiences, which obviously imply a subject that leads to experience” (Costa, 2015: 267).

This study emphasizes that the effectiveness of FtL lies in its order and systematicity. This is mainly because of its logic, based on the natural discovery. “The order or not of the teaching components will facilitate (or will not) the didactic orientation of the learning processes” (Moral & De la Herrán, 2021). “The contents should not be presented in disorder, because it overloads memory and cognitive processes. It can also make it artificial when the contents are not presented as answers to questions” (Costa, 2015: 254).

In conclusion, this research presents the FpA method as a relevant practice on how to teach didactic designs to teachers in training. Its phenomenological pedagogy tries to increase the pedagogical reflexivity. It is remarkable that the implementation of the FtL over five years, has proven to be effective, attractive and innovative for teachers in training.

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## Annex I

1. Are you a pedagogical mentor?
2. What is your overall assessment of the Flowers to Learn method and what did you learn in the subject *Didactics: theory and practice of teaching* in the first year?
3. Why?
4. What main advantages do you see in the Flowers to Learn method?
5. What aspects do you think should be improved?
6. We are going to focus only on the first moment of Flowers to Learn or motivating element that we call Initial Assembly and from which the question that we use in the second moment arises. What do you think is the best strategy to start the process?
7. What other aspects could we take into account to provoke the learning context and initiate an educational project?
8. How did you experience the dynamic of asking many different questions (50) about an object, a photograph, etc. to open your mind to new perspectives and broaden your view?
9. If you had to design a project to learn about something, how would you start the process?
10. From your personal experience, what requirements do you think are necessary to awaken your own interest in something?
11. From your experience, what elements make it difficult to capture the attention of something concrete in teaching?
12. What does the assembly contribute in this first moment or motivating element of the project?

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