

ISSN: 1130-3743 - e-ISSN: 2386-5660
DOI: <https://doi.org/10.14201/teri.31930>

CONTRIBUTIONS TO PRE-SERVICE TEACHER EDUCATION FROM THE CONSTRUCTED EMOTION THEORY

*Aportaciones de la teoría de la emoción construida a la
formación inicial docente*

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Date received: 03/04/2024
Date accepted: 13/06/2024
Online publication date: 01/01/2025

How to cite this article / Cómo citar este artículo: Picazo-Valencia, C. & García-Campos, M. D. (2025). Contributions to Pre-Service Teacher Education from the Constructed Emotion Theory [Aportaciones de la teoría de la emoción construida a la formación inicial docente]. *Teoría de la Educación. Revista Interuniversitaria*, 37(1), 91-109. <https://doi.org/10.14201/teri.31930>

ABSTRACT

Constructed emotion theory focuses on the importance of early experiences in the construction of emotions and in the meanings each person attributes to them. In this approach, school plays a leading role in emotional development. It is believed that it both prevents possible imbalances through a favourable classroom environment and that it transforms the emotions that interfere with development and learning. Emotionally competent teachers are essential for encouraging this emotional adjustment at school. The aim of this paper is to offer a framework for understanding constructed emotion theory to guide teacher training to promote a

paradigm in emotional matters in the classroom. To do so, a literature review was performed, the analysis of which is presented through constructed emotion theory's basic lines, and which highlight people's active participation in each of their emotional experiences. These approaches are then analysed from the educational viewpoint that, as they are intended for the field of teacher training, they take shape in preparing teachers to take responsibility for their own emotions, developing an in-depth understanding of the processes involved in the construction of emotions with a broad and precise emotional language, and in knowing how to increase with it certain emotional processes. Preparing teachers to maintain affective adjustment in their professional practice will not only contribute to their emotional well-being, but will also be reflected in the relationships they establish with their students and in the environment, they create in the classroom. Therefore, the rationale for emotional teacher development programmes must be reviewed.

Keywords: emotion; emotional development; social and emotional learning; teacher training; teacher skills.

RESUMEN

La teoría de la emoción construida destaca la importancia de las experiencias tempranas en la construcción de las emociones, así como en los significados que la persona les atribuye. Desde este planteamiento la escuela se sitúa en un lugar predominante en el desarrollo emocional, se considera que tanto para prevenir posibles desajustes a través de un clima propicio en el aula, como para transformar las emociones que interfieren en el desarrollo y en los aprendizajes. Para fomentar este ajuste emocional desde la escuela es fundamental contar con docentes emocionalmente competentes. El objetivo de este trabajo es ofrecer un marco de entendimiento de la teoría de la emoción construida con el que orientar la formación docente, de cara a promover un cambio de paradigma en las aulas en materia emocional. Para ello, en primer lugar, se ha llevado a cabo una revisión bibliográfica cuyo análisis se presenta a través de las líneas fundamentales de la teoría de la emoción construida y que subrayan la participación activa de la persona en cada una de sus experiencias emocionales. A continuación, estos planteamientos se han analizado desde la perspectiva educativa que, pensados para el ámbito formativo del profesorado, se concretan en preparar al docente para que asuma la responsabilidad de sus propias emociones, desarrolle una comprensión profunda de los procesos que participan en su construcción, cuente con un amplio y preciso lenguaje emocional y sepa reforzar con él determinados procesos emocionales. Preparar a docentes que mantengan el ajuste afectivo en el desempeño profesional no solo contribuirá a su bienestar emocional, sino que este se proyectará en las relaciones que establezca con su alumnado y en el clima que genere en el aula. Por ello, es preciso revisar los fundamentos de los programas de desarrollo emocional del profesorado.

Palabras clave: emoción; desarrollo emocional; aprendizaje socioemocional; formación de docentes; competencias del docente.

1. INTRODUCTION

Study of emotions in education continues to generate interest with the aim of promoting learning in contexts of emotional well-being. However, there is disagreement on the focus adopted in each of the explanatory perspectives. One of the most controversial aspects, which remains topical, is whether basic emotions exist. While some argue that they are universal and innate (Chóliz, 1995; Ekman et al., 1992; Matsumoto et al., 2013), others take the position that they are constructed through interconnected cerebral systems and the evaluation of prior experiences (Barrett, 2018, 2017; Gendron *et al.*, 2020; Leperski, 2017; Sullivan & Minar, 2020; TenHouten, 2021; Touroutoglou *et al.*, 2015).

The basic emotions paradigm is true to biological orientations. It interprets emotions as universal in nature and as such appreciable in all people and cultures. So, Ekman (2018) affirms that, “nuestra herencia evolutiva contribuye en gran medida a la configuración de nuestras respuestas emocionales” [our evolutionary heritage contributes to a great extent to the configuration of our emotional responses] (p. 46). Likewise, the basic emotions focus assumes the existence of a brain that reacts to particular occurrences instead of one that predicts them, as Barrett’s constructionist paradigm of emotions suggests (Barrett, 2017).

A second disagreement relates to identifying emotions in others. Basic-emotions theory holds that the characteristic features of facial expressions offer signs that enable the observer to recognise emotions accurately and even predict the actions of the observed person (Matsumoto *et al.*, 2013). However, Barrett’s constructed theory (2017) considers facial expressions as stereotypes accepted by the culture itself, not as genuine fingerprints understood as physical changes that unambiguously shape each emotional expression and enable it to be identified. There is no proof of a plausible certainty that relates to the existence of a diagnostic facial expression associated with each emotion (Camras *et al.*, 2007; Crivelli *et al.* 2016; Gendron 2017).

According to Barrett (2017), a variety of constructive cerebral processes participate in the creation of each emotion, as subsequent studies attest (Gündem *et al.*, 2022; Hoeman Xu & Barrett, 2019; Sullivan & Minar, 2020).

The aim of this article is to review the fundamental lines of constructed emotion theory to analyse their contributions to the formation of emotionally competent teachers who promote a good emotional climate in their classrooms and foster the emotional development of each of their students.

2. APPROACHES TO THE CONSTRUCTED EMOTION THEORETICAL MODEL

Barrett’s constructed emotion theory (2017) has emerged as a result of the contributions neuroscience has made to the study of emotion over the last two decades, helping to understand from a new paradigm what the emotional system is and how it works.

The new paradigm adds three elements underpinned by constructionist focuses, deriving from sociology, psychology, and neuroscience to the explanation of the emotional dimension (Barrett, 2018). Social construction places importance on how social and cultural circumstances influence emotional processes with the result that these can vary depending on the culture (Belli, 2009; Bisquerra, 2009; Breton, 2012). On the same line, Sokol and Strout (2006) argue that the influence of culture can go so far as to suppress or distort the readiness to feel a given emotion. So, they recognise that social and contextual circumstances influence people's perception and shape their emotional experiences.

From psychological construction, Barrett (2018) argues that emotions are not located in our brains as genetic programs or units waiting to be activated by an input or sensory stimulus, as the classical approach argues, but rather they are generated by combining different processes in which the brain perceives signals (from the interior and the exterior) and creates predictions based on past experiences, giving rise to the construction of emotional experience.

Finally, neuroconstruction provides the understanding that cultural experiences and prior learning are factors at play in the interconnections that occur in the brain (synapses) that contribute to creating experiences and future perceptions. In this way, the brain, starting from the conditions of the present moment, creates an ad hoc emotional concept based on previous experiences that are similar to the current ones. Barrett (2018) summarises this, stating "that experience wires the brain" (p. 35), creating new neuronal circuits thanks to neuroplasticity.

This paradigm shift involves revising what has until now been accepted regarding emotions and so it is necessary to consider its implication in the field of education.

2.1. *Emotions: innate or constructed?*

The classical focus on emotions sees them as the product of evolution and so they are part of the biological nature of the individual. Emotions emerge in individuals as a response to what happens around them, with particular stimuli automatically provoking the emotional response. This would explain why certain emotions are experienced and expressed in a similar way in all cultures (Ekman, 1997).

In contrast, the constructed emotion theory of Barrett (2017) argues that the brain links internal signals and information deriving from the present context with a person's similar prior experiences to give meaning to what is happening at that moment and so make predictions that make it possible to adjust the emotional response. This process of conceptualisation in which a meaning is granted to the new emotional experience uses a system of labelling or categorisation to classify and order emotions. So, this process of constructing emotion contemplates the brain continually gathering, organising, and regulating the information it receives, from both the internal and the external media, and assigning meaning to it through the emotional knowledge constructed with previously lived similar experiences.

This process generates the interpretation of the current situation and its respective response.

The signs that reach the brain coming from the internal medium comprise what Estola and Elbaz-Luwisch (2003) call “body voices”, which are known as interoception. According to Barrett (2018), this plays a fundamental role, helping the brain to interpret the sensations perceived.

Predictions are assumptions by the brain that enable it to foretell what will happen. They are elaborated on the basis of what is happening, in other words, how the brain internally and externally perceives what is happening and prepares for action (Katsumi *et al.*, 2022). In these processes, the brain uses fragments and details of prior experiences to apply them to the current situation and be able to give them a meaning that enables it to anticipate what is going to happen and so make the decision to act in consequence (Wilson-Mendenhall, 2017).

So, given a feeling of discomfort in the stomach, people will give one meaning or another to the sensation depending on the context. For example, they will assign it a meaning of hunger if they are in a patisserie or nerves if they are waiting to sit an exam. In these cases, the brain assigns a meaning to the discomfort in the stomach depending on the context, provoking different emotional experiences in people.

For Barrett (2018) “an emotion is your brain’s creation of what your bodily sensations mean, in relation to what is going on around you in the world” (p. 30). Both internal and external signals undoubtedly influence the perception of the event. However, it seems that the interoceptive network has more weight in day-to-day life, giving the impression that “the things you see and hear influence what you feel, but it’s mostly the other way around: that what you feel alters your sight and hearing” (Barrett 2018, p. 79). On this same line, Seth (2023) considers that “no percibimos el mundo como es, sino del modo que más útil nos resulta percibirlo” [we do not perceive the world as it is but rather in the way that it is most useful to us to perceive it] (p. 138). Consequently, the mood or affect (how I feel) influences what is seen and heard. Affect refers to the sensations we feel throughout the day and it always maintains a certain combination of valence and arousal. Valence refers to the level of pleasure or displeasure in the sensation, while arousal alludes to the level of activation (Barrett, 2018). This is why attention to or the conscience of the corporeal phenomena through interoception is a key mechanism in the construction of emotions, as it is the pathway for accessing the perception that makes it possible to interpret meaning and so guide how one acts (Barrett, 2018). Returning to the previous example, discerning whether the discomfort in the stomach is because of hunger or nerves will help decide on the most appropriate course of action to reduce the feeling of discomfort.

This new understanding of the nature of emotions assigns value to the fact that emotional processes are not situated in specific areas of the brain and that emotions are not waiting to be activated by some input or sensory stimulus (Castellanos, 2023; Ohira, 2020; Westlin *et al.*, 2023), disagreeing with the intrinsic and locationist

interpretation of emotions, promoted by the classical vision. It argues that a network of regions of the brain that interact with one another participates in the construction of emotions, resulting in different psychological processes. In this way, Barrett (2018) understands that “we are architects of our own experience” (p. 40).

2.2. *Questioning the universality of facial expressions and recognition of emotions*

Barrett’s initial studies (Barrett, 2009; Barrett *et al.*, 2001; Feldman, the author’s original surname, 1995) were initially aimed at finding the fingerprints of the emotions. The results were expected to agree with those of the traditional paradigm. Instead, it was found that people display individual differences in the expression of emotions owing to cultural variety and individual differentiation of emotional experiences because these are lived differently by each person. Subsequent studies have found similar results (Crivelli *et al.*, 2016; Jack *et al.*, 2012). In a study with eleven-month-old babies from different cultures who were exposed to two situations that generated fear and anger (Camras *et al.*, 2007), the results showed that the babies’ facial expressions were not the specific one for each of the emotions, something that contradicts the idea of universality.

Constructed emotion theory involves a change in how the perception of emotions in others is understood. Barrett (2018) considers that the emotional experience of the observer influences the perception of the other as this is based on both the experience and the meaning that the observer gives it. So, observers perceive and establish from their own prior experience, what the emotion shown by the other person is.

In contrast, the traditional basic emotions paradigm accepts that a downcast look is the universal expression of sadness and a face with wide-open eyes is the expression of fear. However, for Barrett (2018), the variety of physical sensations that are perceived in a particular emotion and its manifestations are so many and so diverse that when referring to emotions she says that they “are better thought of as emotion categories, because each is a collection of diverse instances” (Barrett, 2018, p. 23), which reflects human variability in the expression and feeling of emotions. For example, in the case of happiness, different physical sensations can be perceived such as different heart rates or motor hyperactivity among others. This same emotion can be expressed by laughing, crying, clenching the fists, embracing, and in other ways. So, there is variability from one person to another, and even the same person can feel and express each emotion differently depending on the context (Aviezer *et al.*, 2008; Boiger *et al.*, 2014; Russell *et al.*, 2003).

Therefore, in contrast with the traditional idea that emotions maintain a distinctive and universal facial and bodily expression, Barrett (2018) argues that facial expressions should be regarded as stereotypes and not as true fingerprints of emotions, given that every person has an expressive facial capacity for each emotion and also that observers perceive these expressive features and interpret them depending on their earliest prior experiences of that emotion.

3. CONCEPTS IN THE CONSTRUCTION OF EMOTIONS

3.1. *Concepts and meaning in emotions*

The process of conceptualisation is a key element in emotional development (Atzil & Gendron, 2017). It relates to abstract concepts and so differs from the process of conceptualisation that is typical of other types of knowledge of a nature that can be perceived and appreciated by most of the senses. In emotional development, the process of conceptualisation is characterised by identifying and giving an individual meaning to the interoceptive signals that the body emits when it encounters an event or environmental stimulus, based on the internal model of predictions constructed on the basis of similar prior experiences. This emotional concept is categorised, forming part of the person's emotional knowledge. Everything that the brain perceives is represented by concepts which, as explained above, are fed by prior experiences. In the case of emotions, emotional concepts are also necessary to feel or perceive an emotion (Barrett, 2018). Concepts help the brain to give meaning to sensory inputs (Hoemann, Xu & Barrett, 2019; Ohira, 2020). That is to say, through the concepts, the brain learns to give meaning to the different signals and to categorise them. This is how past experiences form part of the meaning that the brain gives to the sensations of the moment, creating what is known as an emotion:

Emotions are meaning. They explain your interoceptive changes and corresponding affective feelings, in relation to the situation. They are a prescription for action. The brain systems that implement concepts, such as the interoceptive network and the control network, are the biology of meaning-making. (Barrett, 2018, pp. 126)

The control network helps resolve possible uncertainties about, for example, what predictions are most suitable or what sensory input is most important in any situation (Barrett, 2018).

It is understood that when people categorise using concepts, their brains create predictions based on prior experiences that help to give meaning to sensory stimuli and so, in assigning it a meaning, the brain understands what happens all around, anticipating consequences and choosing the most suitable action (Atzil & Gendron 2017; Barrett & Finlay, 2018; Gündem *et al.*, 2022; Sullivan & Minar 2020).

Therefore, one of the ideas that constructed emotion theory promotes is that an emotional concept is necessary to be able to perceive an emotion. If no concept with which to categorise is available, it is considered that there is no emotion. In other words, if someone does not have the concept of "happiness", that person cannot experience happiness, there would simply be a display of sensory signals from which no evidence of meaning is available. Brooks *et al.* (2017) agree that the absence of emotional concepts affects the meaning of ambiguous emotional experiences. In contrast, when the brain has emotional concepts, it constructs an emotion through the interoceptive network. So, according to Barrett (2018), the

further a person is from the emotional concept, the less capacity he or she will have to recognise the emotion.

Barrett (2018) understands that emotions are a social reality, given that they are categorised and perceived through language and so doing requires there to be what the author calls collective intentionality. Therefore, the emotional concept is a cultural and linguistic construct that enables people from the same culture to adopt a shared knowledge. So, to communicate to others that we are happy and for others to understand it, the socially shared comprehension of happiness is needed. In other words, for an emotion to be constructed, a collective agreement that recognises these sensations under a single name and so can categorise it is needed. If no such agreement exists, this emotion would not exist, even though the sensations that cannot be categorised would still exist. Hence the need to make socially visible the sensations for which there is still no consensus and so are still not recognised as an emotional category.

It might initially seem that emotions simply appear. However, according to this perspective, the individual itself creates them, something Barrett calls affective realism: “Your perceptions are so vivid and immediate that they compel you to believe that you experience the world as it is, when you actually experience a world *of your own construction*” (Barrett 2018, p. 86).

3.2. *Concepts and perception of facial expressions*

Many authors hold that faces do not communicate emotions on their own (Barrett, 2018; Camras *et al.*, 2007; Crivelli *et al.*, 2016; Niedenthal *et al.*, 2010) but instead, having the emotional concept that gives meaning to the facial expression observed is necessary for recognising each emotional expression (Barrett & Finlay, 2018). Similarly, having an emotional concept involves having the capacity to recreate this emotional category in the brain. In other words, when a person sees another person smile, this expression triggers a simulation of an experience of smiling including emotion, motor activity, and somatosensory experience (Niedenthal *et al.*, 2010) that displays the range of meanings applicable to this facial expression and to this specific situation, helping the person perceive the emotional category.

From this focus, it is noted that people perceive emotions in accordance with the application of their own meanings and they can seem to detect the emotions of the other when in reality the emotions they believe they are detecting in other people have been constructed in their own brain (Barrett 2018).

When other people’s faces and bodies are observed, Barrett (2018) notes that the observer could “perceive” a case of emotion, but not “detect” an emotion, because an emotional category does not have a fingerprint that identifies it. For example, instead of feeling the reward value that a smile might provide, a person could experience negative feelings interpreting the smile as an expression of superiority, as a result of a misplaced conceptual processing (Niedenthal *et al.* 2010). In

this case, the person created the concept from sensory inputs that caused negative predictions of feelings.

3.3. *Concepts and creation of emotional meaning through language*

Numerous studies back the relationship between language and emotion (El-Dakhs & Altarriba, 2019; Lindquist *et al.* 2015; Ruba *et al.*, 2022; Tang *et al.* 2023; Vine *et al.* 2020). Others underline the function of words in the acquisition and development of concepts (Balaban & Waxman, 1997; Grosse *et al.* 2021; Hoeman, Xu & Barrett, 2019; Perszyk & Waxman 2018), as words help describe the characteristics of what we feel when determining differences and similarities, as well as contributing to establishing categories. So, use of language is fundamental in emotional development, as it not only makes it possible to classify and order the emotions experienced in a given situation, but it also acts as a mediator in the emotional knowledge that the brain uses to make predictions, which is developed from early childhood (Braicovich, 2023; Hoeman, Xu & Barrett, 2019).

People perceive and communicate emotions through language (Gendron, 2017), and so when people are asked how they feel, they will use emotional concepts to express their emotional state. Language, therefore, helps with the creation and use of concepts, reinforcing the meaning of emotional perceptions (Lindquist *et al.* 2015).

Having a wide range of emotional concepts facilitates giving meaning to the sensations one feels and making predictions that adapt actions to contexts. According to Barrett (2018), the more emotional concepts a person has, the more emotional granularity he or she will have, understood as the ability to interpret with precision the internal different emotional states to adapt better to each situation. This ability facilitates greater command in assigning the emotional term with which to express what one feels and so contribute to managing it. Processes of recognition and identification of emotions are indispensable in emotional development (Campayo-Julve & Sánchez-Gómez, 2020; Hoffmann *et al.*, 2020; Simmons, 2019).

Nonetheless, as Poblete-Christie and Bächler-Silva (2022) suggest, the study of emotions should not be restricted to the objectifiable representation that words entail and should advance understanding of the phenomena that are at play in the identification of emotions such as the perception of bodily signs (Poblete-Christie *et al.*, 2019).

4. **KEYS FOR TEACHER TRAINING FROM CONSTRUCTED EMOTION THEORY**

The study of the emotional dimension has been shaped by basic emotions theory, leading to its predominance in the formation of educational programmes for emotional development. This approach, based on the biological nature of emotions, argues that they are universal and so is people's ability to recognise them in others. From this perspective, possibilities for educational action in relation to

emotions are restricted to regulating them, which has resulted in a proliferation of standardised educational proposals which teachers are only concerned with applying. Some programmes are directed at initial teacher training from this classical perspective (Corcoran & O'Flaherty, 2022; Gilar-Corbí *et al.*, 2018; Palomera *et al.*, 2019; Pertegal-Felices *et al.*, 2017; Schelhorn *et al.*, 2023; Torrijos *et al.*, 2018; Zych & Llorent, 2020). Others, focussed on students' emotional development display unfavourable results (Domitrovich *et al.*, 2022; Evans *et al.*, 2015; Dowling & Barry, 2020; Sidera *et al.*, 2019).

The change to a constructionist paradigm like the theory of Barrett (2018) involves an important advance in emotional training programmes.

4.1. *The responsibility of the teacher in the construction of emotional states*

Barrett's theory (2018) gives the person an active role in the construction of emotions. As has been suggested, a single physical sensation can result in different emotional experiences. Therefore, it is not a case of "learning to regulate emotions" as though they had a single shared meaning and so could be adapted through the same procedure. Instead, it is a case of individual people, when perceiving a subjective experience guided by internal and external signs, becoming aware of them and identifying the ones that affect their emotional development so that they can give new meanings with which the brain develops other predictions that contribute to giving an emotional response that fits the situation. This is the emotional control and responsibility that Barrett notes (2018). Teachers' emotional development programmes based on classical theories do not promote this responsibility. Fostering it from early childhood must be part of the work done at school and emotionally competent teachers are needed to do this.

In this sense, teachers' emotional training must aim to promote an active role for them in assuming responsibility for their emotions in their professional practice. To do this, it will initially be necessary for teachers to identify among their emotions the ones that must be transformed as they affect their relations in the school setting. Next, they must live the new experiences with the firm intention of allocating new meanings to them. This conscious process will enable them to carry out their teaching practice with emotional responsibility. Only then will they be prepared to contribute to the process of their own emotional transformation and be able to guide that of the students.

Barrett (2021) emphasises that having more emotional control implies assuming responsibility for one's own actions. So, educating emotions from individual responsibility favours training teachers who are more committed to their own emotional development and aware of its impact on others.

This focus differs greatly from the traditional perspective, according to which each person responds emotionally as he or she is, considering the emotional response as a fixed question that other people must learn to endure. For example,

expressions such as “you’re making me lose my temper” are typical responses from the classical focus that blame others for one’s own emotions. However, an emotionally competent teacher’s response would be “I am losing my temper”, placing responsibility for the emotion on the self. An education directed from the approach of the constructed-emotion theory will allow for citizens who are more sensitive to their own emotions and other people’s ones.

4.2. *The language of teaching in emotional development*

Language has an essential role in the pedagogical relationship. It acts as a mediator because with it, the teacher contributes as a reference, fostering the processes of categorisation and emotional knowledge. To do so, teachers’ emotional training must contribute to their knowledge of the processes of construction of the emotion in which language is involved and to developing emotional granularity.

Training teachers in the linguistic dimension of emotion involves, on the one hand, proposing educational interventions that promote this enrichment of emotional vocabulary while at the same time practising the perception of internal sensations so that they can express them with precision. On the other hand, it involves offering dialogical practices aimed at identifying and analysing the meanings assigned to these perceptions and the predisposition in which each meaning is situated. And finally reflecting on the consequences of emotional behaviours and the pertinence of their transformation. Language is involved in all of these processes.

A teacher who is trained from the constructionist perspective of Barrett (2018) will have better communicative and linguistic preparation to guide emotional processes from a closer personal dimension, with which to help students give their emotions new meanings that are directed at emotional well-being.

4.3. *Teacher training that supports emotional diversity*

Knowledge of Barrett’s constructed theory (2018) offers pre-service teachers a broader and more diverse understanding of emotions, as it considers the existence of variations in emotional experiences and the influence of self-perceptions on the construction of the emotional experience.

Barrett (2018) underlines the serious consequences of believing that one can unequivocally identify an emotion from facial expressions and she warns that this method, based on the classical approach, is so accepted in schools that these stereotypes are taught to students. So, from an early age, children only learn that when people have a sad face it is because they are sad, and when they smile it is because they are happy. Under this approach, it should be asked how teachers’ actions might be influenced by stereotypes associated with an emotion’s facial expression, which interfere in the teachers’ beliefs about the students and in interpersonal relations between teacher and student if prejudices are not confronted.

In this sense, from the pedagogical viewpoint teachers must have training that prepares them to construct diverse emotions, reflect on their consequences for students, identify and comprehend the range of emotions that are produced in the classroom, and avoid making hasty judgements. From this disposition, the teacher will be able to make students participants in their joint responsibility in the classroom atmosphere. In fact, several authors argue for including in training programmes for emotional development the relational competence, understood as the capacity to develop climates of trust based on good relations between the teacher and the students (Aspelin & Jönsson, 2019; Nordermo *et al.* 2008; Sabol & Pianta, 2012; Vizoso Gómez, 2022). The approach of the comprehension of the emotions of Barrett (2018) contributes to this objective.

This comprehension of the emotional world brings to light a need to train future teachers in emotional competences to make them aware of the responsibility involved in managing educational settings that respect emotional diversity and are sensitive to the mental health of all of the students.

4.4. *New focusses for teachers' emotional training*

It is proposed that, drawing on the perspective of Barrett (2018), one of the key factors in emotional development programmes for teachers is that their recipients play an active role in the construction of their emotions. Understanding the processes that are at play in this objective reveals the importance of making pre-service teachers' participants, hence the need for teaching and evaluation methodologies that activate them and involve them in the processes of construction of the emotion. The character of the methodologies proposed by Poblete-Christie *et al.* (2019) for teachers to transit from the perception of corporeal feelings to the plane of the identification and revelation of their own meanings, or the self-observation to become aware of and manage emotions, developed by Macazaga *et al.* (2013), involve dynamising internal processes based on introspection and the subjective and private intimate recognition of constructed emotions that individuals themselves must develop. These training processes based on analysis of constructed emotional meanings are an opportunity to explain the imprint of institutional culture on teachers' emotions and how each one responds emotionally (Poblete-Christie *et al.*, 2024).

The competences to be developed in the programmes include the commitment to the teaching profession. It is precisely this condition of internal work that usually inspires rejection, or at least initial uncertainty, from participants (Macazaga *et al.*, 2013), something that involves one of the first and principal obstacles to face in these programmes: the risk that the people whom it would benefit the most will drop out soon after starting the training. Other competences to promote are teachers' emotional responsibility, their emotional linguistic competence, referring not only to the lexicon but also to the intervention with language during certain processes

of construction of emotion, and the development of a corporeal awareness for the perception of internal sensations.

5. CONCLUSIONS AND FUTURE DIRECTIONS

The constructed emotion theory of Barrett (2017; 2018) offers a critique of the basic emotion's theory, which argues that emotions are universal and can be clearly identified in facial expressions, questioning both its methodological and empirical aspects (Loaiza, 2022; Braicovich, 2023; González-Arias, 2023). The new approach of Barrett (2017; 2018) provides a vision of emotions that takes into consideration the multiple cerebral processes that participate in their development as well as the different influences, cultural, social and from one's own personal experiences (Gendron *et al.*, 2020; Leperski, 2017; Sullivan & Minar, 2020; TenHouten, 2021; Touroutoglou *et al.*, 2015; Russell *et al.*, 2003).

According to Barrett (2018), the brain carries out a constant activity of registration, anticipating how what it perceives might affect the organism. But the brain does not consider that everything that reaches it is an emotion. For this to happen, the process of conceptualisation must occur. In other words, the person assigns a meaning to the set of internal corporeal sensations and external signals of the present perceived context, drawing on previous experiences that are similar to the present one and that give rise to a prediction about the current emotional experience that permits the individual to adopt the most fitting response, so that this meaning is labelled or classified with an emotional term (Hoemann, Xu & Barrett, 2019; Ohira, 2020). This comes to form part of the person's emotional knowledge, comprising the emotional archive on which the brain bases its future predictions (Atzil & Gendron 2017; Barrett & Finlay, 2018; Gündem *et al.*, 2022; Sullivan & Minar 2020). The complexity of the process is related to the difficulty of accessing it because many of the corporeal sensations through which the emotions could start to be identified are not conceptualised, fundamentally because they are not perceived and, therefore, are limited to the level of sensation. According to Barrett (2018), neuroplasticity makes it possible to assign new meanings if emotional experiences are aroused that facilitate them. For education, this transformation involves the possibility of acting in the development of emotions so that it promotes the sense that best fits emotional behaviour to the context in which it occurs.

This new perspective of understanding of emotions is a major change in emotional development programmes. So, emotional training for teachers must start by emphasising the capacity for emotional adjustment with which pre-services teachers confront the challenge of their professional practice.

To achieve this emotional adjustment, training programmes must: promote pre-service teachers' individual responsibility for their emotions; awaken their awareness of the emotional processes that they experience, especially those that transform the meaning of their emotions and enable them to adapt their emotional behaviour to

the educational context; enrich the emotional lexicon, updating it through perception of the corporeal and external signals that are produced in the school context and allow them to express themselves precisely and richly, as well as to promote fluent intrapersonal and interpersonal dialogue regarding their emotional dimension as teachers; and develop a diverse and dynamic comprehension of emotions, being aware of the need for personal analysis of personal perceptions and of the importance of not letting oneself be carried away by prejudices or hasty considerations.

It is vital that educational proposals based on constructionist perspectives respect pre-service teachers' active role in the construction of their emotions. Continuing to explore strategies that dynamise participation (Macazaga *et al.*, 2013; Poblete *et al.*, 2024) and involve teachers is necessary. Training teachers in emotional adjustment for their professional practice has a fundamentally pedagogical sense, as the ultimate aim is for it to contribute to interpersonal relations and to create a good atmosphere in class.

For future research, it would be of interest to consider in more depth the design and implementation of teacher-training programmes underpinned by the foundations of Barrett's constructed emotion theory (2018) that generate knowledge from educational practice that can be used to compare and enrich constructionist approaches to emotions.

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