

Emotions in Academic Contexts. Theoretical perspectives and implications for educational practice in college

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Abstract

Although emotions have the potential to influence the processes of teaching and learning, its research in educational contexts emerges slowly and piecemeal. This article seeks to contribute to clarify a field of Educational Psychology that promises contributions to design instructional environments that promote beneficial emotions to learning. First, it shows the complexity of emotion as a multidimensional construct. Second, traditional perspectives and emerging approaches are presented. Third, develops key aspects of the theory of achievement emotions by Pekrun et al.. Finally, possible implications for educational practice and viable horizons for future research are provided.

Keywords: achievement emotions, perspectives of study, educational implications, university.

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Emociones en contextos académicos. Perspectivas teóricas e implicaciones para la práctica educativa en la universidad

Resumen

Aunque las emociones tienen el potencial para influir en los procesos de enseñanza y de aprendizaje, su investigación en contextos educacionales emerge lentamente y de manera fragmentada. Este artículo busca contribuir a esclarecer un campo de estudio de la Psicología Educacional que promete contribuciones interesantes para el diseño de ambientes instruccionales promotores de emociones beneficiosas para los aprendizajes. En primer lugar, presenta desarrollos que muestran la complejidad de la emoción como constructo multidimensional. En segundo lugar, identifica perspectivas tradicionales y enfoques emergentes en su estudio. En tercer lugar, desarrolla aspectos centrales de la teoría de las emociones de logro de Pekrun y colaboradores. Finalmente, propone posibles implicaciones de esta teoría para la práctica educativa en el nivel universitario y esboza horizontes viables por donde podría discurrir futura investigación al respecto.

Palabras Clave: emociones de logro, perspectivas de estudio, implicancias educativas, universidad.

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Introduction

Students and teachers have always valued instructional contexts where they interact on a daily basis differently. From the early stages in education up to the university level, both spend endless working hours inside classrooms, where they establish complex social relationships. As a result, the achievement of important goals- academic, social or professional, short-term or long-term- depends on the individual and collective agency that is present in educational institutions (Paoloni, 2014). Due to this subjective element, educational settings are permeable to intense emotional experiences that affect -either positively or negatively- students' and also teachers' learning and performance (Pekrun, Frenzel, Goetz, & Perry, 2007). However, it is surprising that research on emotions in school settings has been so slow to emerge.

We have come to realize that emotions affect, among other aspects, students' academic adjustment, their commitment to the tasks, the self-regulated learning strategies they implement and the academic score they obtain (González-Fernández, Rinaudo, & Donolo, 2010; Linnenbrick, 2007; Pekrun, 2006). Nevertheless, and generally speaking, most preceding data have focused on "negative" emotions, such as anxiety and boredom. In this sense, Pekrun, Goetz, Titz, and Perry (2002), after revising studies which had taken place between 1974 and 2000, confirmed that whereas more than 1000 projects were focused on students' anxiety during exams, no more than 9 considered hope and its effects on learning processes and academic score obtained.

All and all, except for test anxiety (Zeidner, 2007) or research about the attribution theory of motivation and emotions (Weiner, 1992, 2005), little is known about the rest of the emotions that students -and teachers- experience, whether pleasant or unpleasant (Pekrun, 2005)¹. Historically, psychological research on emotions has focused on negative emotions and maladaptive processes of emotion regulation. Maybe because of this, the general theories

¹ It is necessary to make it clear that in this article we refer to the role that emotions play in learning and teaching processes take place in formal academic contexts. We do not include conceptual and empirical advances made from different approaches that integrate emotions in their propositions but which are not focused on them, instead they concentrate on individuals' competence, capacities and abilities to use them intelligently or not. The reader who is interested in different approaches about Emotional Intelligence will find important reviews, for example, in Pena and Repetto (2008), Fernández-Berrocal and Extremera (2005), Fernández-Berrocal and Ruiz

on emotions we have now, mostly, have been built from results obtained from research on negative emotions (Cohn & Fredrickson, 2009).

Twenty years ago, Weiner (1992) viewed with great enthusiasm a growing interest - recent, at that moment- in the study of emotions in Psychology. Almost a decade after that, Zeidner, Boekaerts, and Pintrich (2000) put forward the need of achieving advances that could lead to different methodologies about how to treat emotions and affect in educational settings. In more recent studies, Linnenbrick and Pekrun (2011) insist on the need for more research that may help define the role that emotions play in students' academic life, and that also may provide foundations about how to help students and teachers regulate their emotions effectively. No doubt, from what was said above, research on emotions in learning contexts has clearly become a current need in the field of Educational Psychology.

In this article, we will try to systematize theoretical and empirical advances that place a great emphasis on the importance of emotions in academic contexts. Our intention is to shed some light on this field, which has emerged in Educational Psychology and which seeks to offer interesting contributions for the design of instructional settings suitable for developing positive emotions towards learning. Specifically, we want to: 1) show the complexities of considering emotions as a multidimensional construct; 2) identify emerging tendencies in their study; 3) introduce central features that define the theory of regulation of achievement emotions, while highlighting relations with other important constructs studied from the point of view of Educational Psychology; and finally, 4) propose implications for educational practice specifically at college, suggesting paths for future research.

Emotion: Definitions, Dimensions and Theoretical Perspectives

The field of emotions in Psychology is an area where multiple theoretical models are accompanied, paradoxically, by a lack of precise knowledge on the subject (Choliz, 2005).

Researchers who have been interested in studying emotions have tried to define them in different ways, although no single definition has come to be widely accepted or acknowl-

(2008). Nevertheless, data from the university level can be read in Castejón, Cantero and Pérez (2008), Extremera and Fenández-Berrocal (2004), among others.

edged. Cofer and Appley defined emotions as “any agitated, vehement, or excited mental state of the individual” (Cofer & Appley, 1964 in Weiner, 1992, p. 302). For Damasio, emotions are “an organized set of chemical and nerve reactions that the brain produces when reacting to external stimuli (...)” (Damasio, 2001, in Petri & Govern, 2006, p.368). Other authors have come up with constructs that are more complex and integrated. In that sense, Gross and Thompson (2009), considered emotion as “a person-situation transaction that compels attention, has particular meaning to an individual, and gives rise to a coordinated yet flexible multi-system response to the ongoing person-situation transaction” (Gross & Thompson, 2009, p.5). On the other hand, Choliz (2005) states that emotions are “an affective experience, more or less pleasant or unpleasant, involving a characteristic phenomenological quality and that engages three systems of responses: cognitive-subjective, behavioral-expressive and physiological-adaptive” (Choliz, 2005, p.4).

It is easy to notice the differences that characterize the definition presented above. If we did not already know what they refer to, we could not easily infer that they are descriptions of the same concept, much less that they all refer to the concept of “emotions”. Petri and Govern (2006), as well as Choliz (2005), consider that the multifaceted nature of emotions is responsible for this difficulty in reaching an agreement on their definition.

Emotions are multifaceted or multidimensional because there are a wide range of *subjective (affective), physiological, functional and social* aspects present in every emotional experience, which act in coordinated fashion. Emotion is the psychological construct that integrates or summarizes these four key components present in human experience (Reeve, 1994).

The *affective dimension* of emotions refers to the subjective experience that has personal meaning and sense (Reeve, 1994). Emotions, as subjective affective states, cause us to experience certain feelings intensively, in response to an event, situation, person or object – in the present, past or future, whether real or imaginary (Weiner, 1992). The subjective aspect of emotions is closely linked to what it is understood in everyday life as “emotion” or “feeling”, which often are used interchangeably (Gross & Thompson, 2009). But emotions do not only make us “feel” something (love, hatred, joy or anger), but also impel us to act or not to act. These impulses refer to the physiological dimension of emotions.

The *physiological dimension* of emotions involves both the autonomic and the hormonal systems (Reeve, 1994). When we “feel”, our bodies show a particular state of activation or emotional arousal (our heart beats faster, we breathe more rapidly, our muscles tense). Impulses to act in connection with the emergence of an emotion are associated with automatic neuroendocrine changes that anticipate behavioral responses which can provide metabolic support to help bring about that action (Gross & Thompson, 2009). “I am paralyzed with fear”, “I feel attracted to you” or “I’m going to burst with joy”, are examples of daily expressions that clearly illustrate the physiological dimension of the emotions. This general activation of the body leads us to consider the third dimension of emotions, that is, its functional component.

The *functional dimension* of emotions is connected with the benefits that emotions can bring about in the body’s adaptation to a new environment. On a daily basis and as an individual, as well as from an evolutionary point of view and in general, emotions allow us to be more effective in interacting with the environment. In this process where emotions help individuals adapt to the environment, the social sphere becomes essential; thus, the social functions of emotions can be distinguished from other strictly adaptive functions (Reeve, 1994). The social function of emotions leads us to consider their fourth constitutive dimension: the expressive dimension of the emotions.

The *expressive dimension* of emotions refers to its social and behavioral component. Emotions are social phenomena by nature (Reeve, 1994). Through postures, gestures, vocalizations and facial expressions, emotions are expressed and communicated to others. We constantly send emotional messages to others and also we infer people’s private feelings through their public expressions.

All in all, talking about emotions is not an easy task because we are dealing with a complex construct (Gross & Thompson, 2009). The constitutive components of emotions involve the individual as a whole: their feelings and thoughts, their bodies and physiology, their intentions and purposes, their behavior (Reeve, 1994). All these elements that concur during the emotional process can be identified and can even be analysed separately, but emotions themselves are a fusion that represents the system acting as a whole (Weiner, 1992).

Traditional Approaches and Emerging Perspectives on Emotions

Through the years, different perspectives have been defined in the study of emotions. This process of differentiation in theoretical approaches was encouraged by the multidimensional nature of the subject, which each perspective was trying to explain. According to the classification put forward by Reeve (1994), the traditional approaches to the study of emotions can be grouped into two types: the *biological approach* and the *cognitive approach*. Generally speaking, biological theorists assert that emotional reactions can occur without the interference of cognition; cognitive theorists, on the other hand, state that people cannot experience an emotional response without a previous, cognitive assessment of the personal significance of the stimuli (Weiner, 1992).

Even though both perspectives offer quite a comprehensive and satisfactory view of the process of emotions (Reeve, 1994), in the history of the emotional psychology we can observe a kind of fragmentation of proposals, seemingly trying to precisely determine which of the two -biological or cognitive- offers the best explanation for emotions in human behavior. However, this dichotomy that has long characterized the study of emotions seems to be progressing towards more integrated, contextualized approaches, a tendency that can also be noticed in the study of different topics in Educational Psychology, including achievement emotions (Paoloni, 2014).

Emerging perspectives in the study of emotions. The postulates of Gross and Thompson (2009) or the proposals by Griffiths and Scarantino (2009) are two examples of models that integrated theoretical developments and are oriented toward more comprehensive views of emotions. For Gross and Thompson (2009), an emotional experience implies a constant person-situation interaction that demands attention in that it has particular meaning for the person, resulting in multisystem, flexible and coordinated responses. In this way emotions have a recursive effect, since they create changes in the environment, which in turn affects the likelihood that subsequent emotions will emerge, and so on. This feedback -or constant exchange of information- which is present between the emotional response and the events preceding its emergence, reflects the dynamic, reciprocally determined nature of the emotion in a

given context, in a continuous flow between emotional stimuli and behavioral responses, where cognitive and biological aspects are inseparably integrated in one system.

The ideas of Gross and Thompson (2009) concur in general with the situated perspective on emotion suggested by Griffiths and Scarantino (2009). These authors insist that aspects of emotion cannot be studied independently from one other. Instead, they should be analysed in relation to specific contexts. In both models of emotions, the socio-cognitive and the situated, context plays an important role, unlike the earlier biological and cognitive perspectives.

From traditional perspectives, context plays a rather neglected role in the consideration of emotions; its participation is limited to providing stimuli and receiving the emotional reactions produced by the body. Along these lines, cognitive as well as biological theorists focus their attention on the contributions that emotions make from the “inside” of the individual (Griffiths & Scarantino, 2009). On the contrary, more integrated, situated and dynamic perspectives of emotions regard the context as part of the emotional process, consequently paying attention to the interrelations that are established between personal and contextual aspects when emotions emerge, are expressed and regulated (Griffiths & Scarantino, 2009). We approach *emotions in academic contexts* specifically from these integrated, situated approaches.

Emotions in Academic Contexts

The study of emotions in education has not remained isolated from more general changes that have occurred in educational research in the last few decades². The tendency to integrate different *personal dimensions* in the study of emotions, suggested by *contextual or situated approaches*, can be observed in recent proposals and research on emotions in education (Boekaers, 2007; Elliot & Pekrun, 2007; Ketonen & Lonka, 2012; Linnenbrick, 2007; Meyer & Turner, 2007; Pekrun et al., 2007; among others). Nevertheless, and as we have already pointed out, although emotions have the potential to influence the processes of teaching and learning, their investigation in educational contexts is developing slowly and in a fragmented fashion (Schutz & Pekrun, 2007).

² A review of antecedents in educational research in the past decade led us to identify a remarkable tendency towards integrative, multidimensional, situated and experiential perspectives in the study of learning processes (De Corte, 2000; Pintrich, 2000a, 2000b; Volet, 2001). In that sense, educational psychology have shown a marked interest in considering the influence of context in complex psychological phenomena such as that which takes place in academic learning.

In the past ten years, research on emotions in academic contexts has been progressing in relative isolation. In this way, “research on emotions in education and on achievement emotions more generally, is in a state of fragmentation today. More integrative frameworks seem to be largely lacking, thereby limiting theoretical and empirical progress” (Pekrun et al., 2007, p. 14). Considering this situation, the control-value theory of achievement emotions (Pekrun et al., 2007) provides a socio-cognitive perspective of achievement emotions of students and teachers, and represents an integrated alternative to the theoretical fragmentation and dispersion that we have noted as characteristic of the study of emotions in education.

Pekrun’s Control-Value Theory of Achievement Emotions

Schutz and Pekrun (2007) use the name “*achievement emotions*” for those emotions that are linked to the academic context and that they consider to be complex psychological processes with affective, cognitive, motivational and expressive components. These academic emotions are based mainly on the way teachers and students perceive what is going on in the context of a specific activity (Meyer & Turner, 2007). To be more specific, Pekrun et al. (2007) define achievement emotions as emotions directly related to achievement activities and their results.

Achievement is understood as the quality of activities or their results, evaluated according to standards of excellence. According to these definitions, most of the emotions experienced by students in academic contexts (although, obviously, not all of them) would be achievement emotions, since they are related to behaviors and results that are being judged according to standards of excellence – by the students themselves as well as by others. In this way, the anger or disappointment experienced by students when they find out they have failed an exam which is regarded as important, the pride felt when they have fulfilled an academic ambition, the embarrassment of being caught cheating, or the joy experienced when they manage to successfully solve an activity that is interesting to them, are some examples of achievement emotions activated in academic contexts.

In education, research on achievement emotions has focused in general on emotions related to outcomes, such as anxiety experienced by students when they have exams (Zeidner, 2007) or the emotions related to school success and failure (Weiner, 1992, 2005). Nevertheless, the perspective by Pekrun et al. (2007) posits that it is essential to recognize that emotions related to achievement activities should also be considered achievement emotions themselves, strictly speaking. In this way, enjoyment and pride experienced when students have fulfilled a goal, frustration or embarrassment when they have failed or boredom in class when the teachers explains something, are examples of emotions related to achievement activities.

Pekrun et al. (2007) consider that the control-value theory is *integrative* in two ways: first, because it integrates a variety of personal aspects related to constructs studied in Educational Psychology – cognitive, metacognitive, motivational, attitudinal; second, because it integrates personal and contextual aspects when considering students and teachers' emotional processes. The following two sections discuss why this theory is integrative in the ways just mentioned.

Integration of Personal Aspects in Academic Emotions

In order to provide an integrated framework and to encourage theoretical and empirical progress in the study of academic emotions, Pekrun and his team developed the control-value theory of achievement emotions (Pekrun et al., 2002; Pekrun et al., 2007), providing a socio-cognitive perspective of students' and teachers' achievement emotions, and representing an integrated alternative to theoretical fragmentation.

As far as the integration of personal aspects when considering achievement emotions, these authors' proposals integrate developments related to other important constructs of Educational Psychology, such as control beliefs, self-efficacy beliefs, achievement expectations and causative attributions. In this sense, Pekrun and his team's model is based on consistent empirical evidence: a vast program of qualitative and quantitative studies oriented to enhancing the theoretical and methodological perspective about cognitive antecedents of achievement emotions in academic contexts³.

³ Characteristics of qualitative and quantitative studies that support this theory, as well as the main findings obtained in each one, are taken up and systematized in Pekrun et al. (2002). The considerable level of study and development that distinguishes this model was summarized in a series of items that lately became an instrument

Pekrun's proposal (2007) states that there are two groups of perceptions that are relevant to the activation of academic emotions in students and teachers: the subjective control of activities and outcomes; and the subjective value given to those activities and results. It is assumed that the estimations made by students and teachers regarding the perceived control and value of academic activities and outcomes obtained or expected, are proximal antecedents in arousing academic emotions.

In the *subjective control* of achievement activities and outcomes, three types of expectations would be relevant for Pekrun et al. (2007): *action-control expectancies*, *action-outcome expectancies* and *situation-outcome expectancies*.

Action-control expectancies refer to an individual's anticipation that an academic activity will be started and performed successfully ("I control my performance"). According to Pekrun et al. (2007), these expectations would match those in Bandura's proposal (1993) about self-efficacy beliefs, understood as "the judgment about the ability to perform specific actions in the light of specific goals" (Pintrich & Schunk, 1996, p.104).

Action-outcome expectancies, on the other hand, mean anticipation about activities performed which in turn will lead to expected results ("I control my outcomes"). As one can infer, expected control over actions as well as expectations about the results of actions emphasizes students' agency and the role of personal expectations as important cognitive mediators of behavior. If the former are linked to self-efficacy beliefs and the latter to expectations of results, we may point out one difference between the two, while efficacy beliefs refer to present behavior, outcome expectations focus on projected results in the future (Wigfield & Tonks, 2002).

Finally, *situation-outcome expectancies* suggest expected outcomes that appear in a specific situation without the intervention of the subject (the outcomes depend on the situation). While action-control expectancies and action-outcome expectancies are linked to the

to measure and evaluate academic emotions. Known as the AEQ (Achievement Emotions Questionnaire) by Pekrun, Goetz and Perry (2005), this instrument caught the attention of a broad audience in education at different levels of the system. The scientific community is currently using the AEQ in investigations carried out all around the world, for example, in Belgium (Mouratidis et al., 2009), China and Germany (Frenzel et al., 2007), the U.S.A (Berg, 2008), the Philippines (Matti et al., 2009) and Spain (González Fernández et al., 2010).

idea of self-determination, autonomy or personal causation – so important for intrinsic motivation (Huertas, 1997; Pintrich & Schunk, 1996; Ryan & Deci, 2000) and for the self-regulated behavior (Pintrich, 2000^a) –situation-outcome expectancies would be linked to ideas of external regulation of performance, or extrinsic motivation, suggested by Ryan and Deci's proposal (2000).

As for the *subjective value* attributed to the activities and the results obtained (another of the antecedents that Pekrun et al. (2007) propose to explain the arousal of achievement emotions), the theory distinguishes between *intrinsic* and *extrinsic values*.

Pekrun et al. (2007) consider that *the intrinsic value* of activities refers to students' appraisal of the activity itself, based on pleasure experienced while performing it, regardless of any significant outcomes. For example, a student who likes Math may become interested in solving mathematical problems, regardless of whether this will result in good grades. A student who places intrinsic value on an academic activity will then enjoy doing it, regardless of outcomes produced, and positive emotions such as enthusiasm and pleasure will be activated.

On the other hand, *the extrinsic value* put forward by Pekrun et al. (2007) as an antecedent to achievement emotions, refers to the instrumental nature of academic activities as perceived by the students. Attention is focused on expected results, directly or indirectly, according to one's performance on the activity. For instance, a student may value studying hard because this helps her gets good grades (she personally believes good grades are a direct result of studying) or because she thinks that good grades are valuable for her goals such as getting her ideal job (she places great value on her marks because they are important for her future). In this sense, the extrinsic value proposed by Pekrun et al. (2007) echoes the concept of instrumental nature suggested by Eccles (2005) and the concept of instrumental motivation developed by Lens and Simons (2002).

Interaction of Personal and Contextual Aspects in Achievement Emotions

Although the theory of achievement emotions places a great emphasis on cognitive and motivational aspects in the emergence of the academic emotions, such as beliefs of control over learning, expected results or the value attributed to activities and outcomes, it also acknowledges the influence of other personal and social factors. Personal factors include ge-

netic disposition and one's physiologically determined temperament, while social factors include interactions that take place in the classrooms, the specific characteristics of the academic environment or the features that define the broader socio-historical context.

In this integrative framework of considering emotions, the theory posits the existence of constant interactions between different personal aspects in the emotional processes and also between personal and contextual factors. Consequently, the proximal antecedents in the arousal of emotions as well as the manifestations of the emotions themselves and their effects are linked by reciprocal causalities all the time. This leads to a definition of emotions in education as dynamic systems, where the flow of interaction between personal and context elements is constant and reciprocally determined. From this integrated approach with the participation of both personal and contextual aspects in the arousal and development of achievement emotions, Pekrun, Cusack, Maruyama, Elliot, and Thomas (2014) carried out a study to inquire further into this topic, focusing on the feedback of achievement as an instructional factor capable of positively or negatively influencing achievement emotions experienced by students.

Implications for Educational Practice in College

Considering the present need to design educational interventions that take into account the different ways that emotions develop in general, and specifically achievement emotions (Goetz, Fenzel, Hall, & Pekrun, 2008), the following section presents possible implications of the theory of achievement emotions for teaching practice at the university level, integrating proposals that come from other areas of study in Educational Psychology.

Achievement Emotions and Cognitive Resources

The control-value theory of achievement emotions puts forward the idea that the emotions help to focus attention on a specific object. If a student is angry because of academic failure or anxious over an exam that is coming, he will probably have difficulty concentrating when studying. On the other hand, it is also believed that positive emotions related to an academic activity in particular help to focus the student's attention on the characteristics of the activity, which benefits his performance. Pekrun et al. (2007) discovered that the pleasure

students feel when learning correlates positively with their experience of flow, as understood from the traditional perspective suggested by Csikszentmihalyi (1998), which would point out that positive emotions promote the focus of cognitive resources on learning. In support of these assumptions, Pekrun et al. (2002) and Pekrun et al. (2004, in Pekrun et al., 2007) learned that anxiety, shame and hopelessness that stem from achievement outcomes considered negative, correlated negatively with the flow experience and positively with thoughts that were irrelevant to the task being performed.

As for *cognitive strategies*, another important cognitive resource, research has shown that positive mood facilitates more creative, holistic and flexible ways to solve problems, while negative affective states can promote more rigid and analytic thinking (Isen, 2000 in Pekrun et al., 2007). In concurrence with these findings, positive emotions (such as joy, happiness or hope) are believed to favor the use of more flexible learning strategies such as content elaboration and organization (Pekrun et al., 2002), while negative emotions (such as anger, frustration or anxiety) are thought to encourage the use of more rigid strategies such as copying, repetition or simple procedures of trial and error. In addition, deactivation emotions (such as boredom, sadness or hopelessness) would negatively affect any profound treatment of the information related to the task (Pekrun et al., 2007).

The postulates and findings about the links between achievement emotions and cognitive resources -such as attention, concentration, and cognitive strategies- suggest at least two important implications for teaching practice at university level.

a) The importance of students' applying themselves to the assignments they are required to complete. Proponer consignas que en su formación resulten lo suficientemente claras para que promuevan en los estudiantes la elaboración de interpretaciones orientadas en el sentido de los objetivos educativos, parece ser una alternativa promisorias para el surgimiento de emociones placenteras entre los alumnos. Formulating assignments clearly enough to foster students' development of interpretations that address educational objectives, seems to be a promising alternative for the emergence of pleasant emotions in students. Research findings have shown complex interactions between students' interpretation of an assignment given and the dynamics of motivational aspects and emotional states that occur as a consequence. Specifically, in a study carried out by Paoloni and Rinaudo (2009) with advanced university students, it was observed that when students' initial cognitive plans as they approached an as-

signment were not oriented in the direction teachers expected, the students demonstrated a high level of anxiety, scarce disposition to get involved in the task, lack of enthusiasm and they prioritized objectives that aimed at getting the activity finished, merely because it was required (extrinsic goals).

b) Importance of having potentially rich materials to study, in order to promote intense cognitive activity. Pekrun et al. (2007) point out how important it is for the students to promote intense cognitive activity through, for example, the establishment of relations between different topics or problems, disciplines or theories, so that beneficial emotional states may be activated in them. In that sense, the proposal put forward by Perkins (1995) aimed to promote pedagogical ideas to reflect upon, understand and use knowledge intelligently, and is directly linked with the ideas supported by Pekrun et al. (2007). If students perceive that the learning situations challenge them to use their repertoire of cognitive resources, if they consider that the activities will promote the intelligent use of knowledge, they will probably show willingness to get involved in learning, which in turn will activate beneficial emotions. The findings obtained by Ainley and Ainley (2011) help establish these hypotheses. Their studies suggest that when students perceive that the topics or contents proposed in the framework of their educational processes have personal relevance and meaning to their lives, they are likely to experience pleasure and enthusiasm, which in turn favorably impacts their commitment to their own learning.

Achievement Emotions and Motivational Resources

The theory of achievement emotions assumes that activating positive emotions, such as enjoyment, increase students' interest and reinforce their motivation to learn, while negative, deactivating emotions, such as hopelessness and boredom, lead to a decrease in motivation and to disillusionment with the goals (Pekrun et al., 2007). Findings from research carried out in the field of achievement motivation point in the same direction as proposals from Pekrun et al. (2007).

Researchers such as Alonso-Tapia and Lopez-Luengo (1999), Ames (1992) and Hanrahan (1998), found that intrinsic motivation is linked to an increase in interest in the task, greater cognitive commitment, high emotional quality experienced during the process of learning and improved academic achievement. If the academic context helps build students'

interest (both situational and personal), and influences the values underlying their emotions, then it seems important to think about academic activities that promote positive emotions and students' commitment to get involved in their learning. In this sense, the following implications for education can be suggested.

a) The importance of promoting students' adoption of intrinsic and extrinsic values. Schunk and Pajares (2005) advise that appraisals formed by students about their academic contexts are so important to the process of learning, they may account for the fact that a student becomes fully engaged in an activity, even though his self-efficacy beliefs for success are low. According to these authors, making explicit the importance, interest and utility that a task may have in relation to students' educational goals or future plans in general, is a way to promote higher commitment to the task itself and also the activation of positive emotional states. As it can be inferred, the importance of *student appraisals* of academic learning, emphasized by Schuck and Pajares (2005), is points precisely in the same direction proposed by Pekrun when he speaks of the proximal antecedents that explain the emergence of achievement emotions.

b) The importance of vicarious learning and mechanisms of "emotional contagiousness" for activating pleasant emotions in students. Findings suggest that parents', teachers' and tutors' enthusiasm for education can induce students' enthusiasm to learn and get better results as part of their process of education (Pekrun et al., 2007). In that sense, Meyer and Turner (2007), consider that students' and teachers' emotions in the classrooms are closely linked to each other, which leads to thinking about emotional co-development. According to other proposals, when teachers adopt a positive attitude towards their teaching, when they are enthused about their role as educators, they "fall in love" or "fall back in love" with their profession, a promising alternative to make students interested in their own learning is under way.

c) The need to consider the predominant goal structure in the classroom. Research on achievement emotions has shown that the prevailing goal structure in class affects subjective control, values and the resulting emotions of class members (Pekrun et al., 2007). Competitive structures, for instance, defined by repeated episodes of social comparison, create negative emotions such as anger, anxiety and hopelessness. On the contrary, goal structures related to the task at hand, with positive expectations about the results obtained and with intraperson-

al and not interpersonal assessments of academic achievement, will probably be more beneficial in terms of students' perceived control and the achievement emotions that are generated as a consequence (Pekrun et al., 2007; Turner, Meyer, & Schweinle, 2003).

d) The importance of designing challenging academic activities in proportion to students' abilities. This would favor the emergence and development of self-efficacy beliefs capable of positively impacting the subsequent appraisal and emotions. Ryan and Deci (2000) propose that if students perceive the demand involved in an academic task as too easy or too difficult by students, they are likely to be bored. Similar assumptions can be made for teachers. If teachers perceive that students participate actively, with challenging questions, or give competent answers, enjoyment may be increased, which in turn may positively impact students' enthusiasm to learn and get involved in the task or learning proposed by the teacher (Pekrun et al., 2007).

Achievement Emotions and Self-regulation Processes

Pekrun, Goetz, Frenzel, Barchfeld, and Perry (2011) consider that academic emotions are related to self-regulation processes that students carry out, which impact the quality of learning and the results obtained. In this sense, pleasant emotions may promote the emergence of intrinsic or extrinsic motivation, facilitate a more flexible use of learning strategies and support self-regulation processes carried out by students. On the contrary, negative emotions such as boredom, anger or hopelessness may decrease students' motivation to learn and their efforts to process information, which may negatively affect their self-regulatory performance and the possibility of getting good results.

In fact, research has shown that the opportunity to choose encourages students to act in a more optimistic, enthusiastic way when they have to deal with academic tasks (Pintrich & Schunk, 1996; Ryan & Deci, 2000). If appraisals and control expectations about the task and its results are proximal antecedents in the emergence of achievement emotions (Pekrun et al., 2007) and if the settings that supports students' self-regulated learning tend to increase this type of control beliefs and positive appraisals of learning, then the following implications may be useful in university contexts, precisely because of the freedom and autonomy that usually characterize them.

a) *The importance of expanding students' autonomy in terms of their curriculum.* Regarding ways that teachers can encourage greater autonomy in their students, Stefanou (2004, in González Fernández, 2005) put forward three types of strategies related to different areas: *the organizational, the procedural* and *the cognitive*. Among strategies that promote *organizational autonomy* would be any that are oriented to make students responsible for the organization and development of a certain class. As for strategies that favor the development of *procedural autonomy*, the author suggests providing students with the possibility to choose topics, material and the way to show the progress they are making. Finally, among strategies to develop *cognitive autonomy*, it is suggested that: students should have enough time to develop the projects assigned, which in turn will give them more opportunity to adopt deep approaches to learning; teachers should give feedback about students' performance to help them identify weak points that can be improved and strengths that can be advantageous; they should also encourage students to set personal goals and promote self-regulatory processes, debates and critical thinking. To sum up, the strategies suggested by Stefanou (2004, in González Fernández, 2005) have the potential to create emotional states that are beneficial for learning, since they are focused on students' self-regulatory beliefs over their processes of learning and the results obtained. In this sense, the university becomes an extremely appropriate context to consider these strategies.

b) *The need to help students perceive and positively value their autonomy to learn.* Findings referring to the university context suggest that the design of academic contexts that provide students with situations of autonomy at different levels or in relation to different areas is not enough. Rather, students must first be guided to identify those situations, to value them as important or instrumental in their professional formation, and then progress gradually towards greater levels of self-regulation of the internal and external resources available to them for learning (Paoloni, 2010).

c) *The importance of regarding knowledge and emotional regulation as competencies students should develop.* The theory of control-value suggests that educators can change students' emotions directly, intervening so that students modify some of their beliefs and appraisals about personal or contextual aspects. For example, if attributional re-training has been effective in changing student's motivation, it is believed that this will probably be useful in changing their emotions as well (Pekrun et al., 2007). Similar propositions that defend the possibility of successfully changing students' emotions from an initially external intervention

in the academic context can be found in propositions put forward by Boekaerts (1999) and by Boekaerts and Niemivirta (2000).

d) *The importance of considering the benefits of cooperative learning in the emergence of pleasant emotions.* González Fernández (2005) and Huertas and Montero (2001), consider that activities that promote cooperative work have positive effects on group members' self-esteem, on perceived control over learning and on the academic outcome obtained. In the same way, they inform that, in general, if students are working on an activity that promotes cooperation, it becomes easier to create appropriate situations that promote more autonomy, curiosity and an optimal level of difficulty, aspects which are all related to the emergence and development of beneficial emotional states for students and teachers (Pekrun et al., 2007). Rivers, Hagelskamp and Brockets' work (2013) points in the direction suggested by the foregoing ideas. According to these authors, groups with positive socio-emotional qualities are characterized by their members feeling united, valued and supported by their peers; in these groups, trust and mutual respect prevail and they are linked to a strong sense of belonging, enthusiasm and pleasure, as resulting emotions. According to the authors, research has shown that students' emotions and positive perceptions about interpersonal relations that are formed in the group are linked in turn to better academic performance and higher commitment to learning (Rivers et al., 2013).

Achievement Emotions and Feedback Processes

According to Pekrun et al. (2007), feedback about academic success or failure affects students' emotions. In this sense, generally, the success obtained generates emotions such as joy or satisfaction, enthusiasm or hope; on the contrary, academic failure is linked to experiences of anguish, disappointment, guilt or anger. But apart from that, feedback helps to define expectations and the perceived value of future performances that determine students' forward-looking emotions. In this sense, according to Pekrun et al. (2007), emotions influence learning, but also learning and the outcomes obtained influence the emergence of subsequent emotions. Thus, as we have already pointed out, emotions, their effects and antecedents, are linked by reciprocal causality. The links that join emotions, effects and antecedents, have to do with feedback cycles that are usually present in academic contexts.

Pekrun et al. (2007) suggest that positive feedback cycles, in other words, pleasure in learning, academic success and positive emotions, are reinforced reciprocally over time. Nevertheless, the authors consider that negative feedback cycles are not necessarily detrimental for learning processes since they can also be linked to optimal processes or results. For example, when failure creates anxiety, this feeling can induce students to successfully avoid failure in the following exams. In relation to the above, we can think of the following implications for teaching practice in higher levels of education.

Importance of considering the content of feedback, how to communicate it and the way students understand it. As we have already seen, feedback cycles do not necessarily mean positive comments about a situation or results obtained in order to be effective or to be associated with the emergence of students' positive emotions (Pekrun et al., 2007). Even so, the way the messages are communicated and the interpretation students make about those messages need to be dealt with carefully so that students' attention remains focused on the possibility of improvement and personal effort as an alternative to achieve it (Alexander, 2006; Paoloni & Rinaudo, 2014). Findings in research support this theory, underscoring the importance that feedback has in increasing perceived self-efficacy, when it communicates that mistakes are part of learning processes, when it links students' progress in achieving their goals to the effort made, when it encourages acknowledgement of the control that students have over their own learning processes and when it suggests that abilities are susceptible to improvement (Pintrich & Schunk, 1996; Urdan & Turner, 2005). If the students can anticipate control over activities or subsequent results, if they can also interpret that their abilities and capacities can be improved, then they will probably experience positive forward-looking emotions such as enthusiasm, enjoyment or hope.

Closing considerations: Opening Horizons to New Challenges

In this article we began with considering the complexity involved in the study of emotion as a multidimensional construct, to gradually approach the characteristics that define the more specific field of achievement emotions. Although there has recently been a remarkable increase in research focused on emotions experienced by students and teachers in classrooms, the advances stem from different approaches (mini theories) that progress in relatively isola-

tion and fragmentation, a situation which calls for consensus between theorists and researchers (Pekrun & Schutz, 2007).

Does this mean that the scenario is discouraging to those of us who are truly interested in the study of emotions in education? Quite the contrary! Achievement emotions represent a field of study in their own right, a field that is fully under way, and that attempts to make important contributions that will in turn help us understand how to treat emotions in teaching and learning processes, how to design academic contexts which potentially promote optimal emotional states and dynamics for students and teachers.

Apart from integrating current tendencies in educational research and the study of achievement emotions in particular, the theory of achievement emotions by Pekrun and his colleagues is especially interesting in considering the university context. Why do we say so? On one hand, as we have already stated here, the basic postulates of this theory are based on two main constructs: control beliefs about learning and appraisals about the academic context. On the other hand, because the university context is precisely the right place to promote the type of beliefs and appraisals that this theory postulates as antecedents in the emergence and growth of students' and teachers' emotions.

Every postulate from the theory of achievement emotions that has been presented here, represents a possible future line of research. Every possible educational implication suggested in this article is an invitation and a challenge to those restless spirits who are concerned with the progress of science and improvements in Education, mainly in the higher levels. Thus we have seed and fertile soil, we are enthusiastic and we also have some tools – let us use our imagination to see what we can achieve.

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