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## Teaching Teachers about Emotion Regulation in the Classroom

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*Abstract: Emotions affect, and are intertwined with, many of the cognitive processes of learning and also classroom motivation and social interaction. There are often times within daily classroom life that students and teachers are required to, or feel compelled to, regulate their emotions. Limited research has shown that particular aspects of classroom environments can enhance emotion regulation strategy development. In addition, research indicates that some emotion regulation strategies are more effective than others, with antecedent strategies appearing favourable. Using a self-regulation perspective, this article takes a broad look at emotion regulation in the classroom through a review of relevant research, including the author's own. The article investigates the importance of emotion regulation in the classroom and subsequently how emotion regulation development can be enhanced.*

### Introduction

Up until the last fifty years, psychologists have paid little attention to emotions. At different stages, the behaviourist tradition and the subsequent cognitivist movement both underplayed the importance of emotions, mainly because they were not directly observable. Even as emotions gained some recognition in the early 1900s, psychologists tended to view them as possible obstructions to people making good decisions and focusing on tasks. In the mid-1900s, Maslow (1943) changed the direction of this thinking when he described how people can build emotional strength, making emotions pertinent to education. Thus, whereas emotions were previously regarded as irrational and inexplicable, they were then conceived as being rational and related to logic and understanding (Griffiths, 1984). The latter conception allowed emotions to be organised and shaped (LeDoux, 1998); and, because emotions can convey valuable information and enhance cognitive processes, they have become viewed as integral to the learning process (Schutz & Lanehart, 2002).

Today it is recognised that aspects of cognition that are the focus of schooling – learning, attention, memory, decision making, motivation and social functioning are not only affected by emotion but intertwined within emotion processes. In addition, application of knowledge, facts and logical reasoning skills learnt at school to real world situations requires emotion processes (Immordino-Yang & Damasio, 2007). The new directions in thinking about emotions have contributed to a greater understanding of student and teacher experiences of emotion and, in particular, an enhanced knowledge of how emotion can be regulated. We now know that emotion regulation is associated with favourable education outcomes (e.g. Boekaerts, 2002; Gumora & Arsenio, 2002). However, specific emotion regulation research still needs to occur in order to understand adaptive regulation and how it may be enhanced in the classroom.

In this article I examine emotion regulation in the classroom through a review of current research, including my own. Classroom emotion regulation can be considered from

different, equally important, perspectives. These include teacher regulation of student emotions, student and teacher regulation of their own emotions and student regulation of other student emotions. As self-regulation is now highly valued in education, the 'self' aspects of emotion regulation will be considered in this paper. The paper will focus particularly on student emotion regulation, with some reference to teacher emotion regulation. The aim of the paper is to develop teachers' understanding of emotion regulation in the classroom through a discussion of its importance, use and development. In the process, the paper will also draw attention to aspects of this concept that need further investigation. Classroom emotion regulation is an important topic. Focussing on emotion regulation may assist education to achieve the dual goals of developing students understanding of the world around them, and of themselves.

In the main body of this paper I begin by outlining what is currently known about the relationship between emotion and learning, thus building a case for why a focus on emotion regulation is important. Next, in order to further develop an understanding of emotion regulation, classification systems are outlined and research findings related to emotion regulation strategy use are presented. Finally, some pedagogical practices that enhance healthy emotion regulation development are discussed.

## **Emotions and Learning**

Schooling is an emotionally laden process for students, teachers and parents (Schutz, Hong, Cross & Osborne, 2006). Emotions are intimately involved in virtually every aspect of the teaching and learning process (Schutz & Lanehart, 2002) as they are, according to appraisal theorists (Roseman & Smith, 2001), based on an individual's cognitive interpretations and appraisals of specific situations. In addition, it is now recognised that emotions serve as a powerful vehicle for enhancing or inhibiting learning (Greenleaf, 2002).

Research by Linnenbrink and Pintrich (2000) and others has indicated that emotions are not only based on cognitive processes but may also exert a powerful influence on these and motivational processes. For example, negative emotions can reduce working memory, the memory system used for holding and manipulating information while various mental tasks are carried out (Linnenbrink & Pintrich, 2000); and, in reverse, tasks that load working memory capacity can clear the mind of negative feelings (Van Dillen & Koole, 2007). Positive emotion can broaden thought-action repertoires (Fredrickson, 2001), suggesting that students and teachers who experience more positive emotions may generate more ideas and strategies. In addition, emotions can have an impact on different cognitive, regulatory and thinking strategies (Pekrun, 1992). For example, negative emotions lessen the probability that students will use cognitive strategies for deeper, more elaborate processing of information (Linnenbrink & Pintrich, 2000). Emotions also affect categorising, thinking and problem solving (Sutton & Wheatley, 2003). Emotion can affect the attentional resources available for engaging in cognitive processes and impact on various motivational processes, with positive emotions found to enhance levels of intrinsic motivation (Linnenbrink & Pintrich, 2000). These are some of the relationships between emotions and learning processes that justify a focus on classroom emotion regulation.

Another aspect that needs to be considered in relation to emotion is the way the brain functions. For example, when a student is under stress, the majority of the brain shuts down and it reverts to survival needs, such as defensiveness and attention-seeking (Weare, 2004). It is crucial that school personnel avoid adding to students' stress and use knowledge of the brain to enhance student learning. One way to do this is to supply students with the basic human needs, such as: the need for belonging, competence and autonomy (Deci, 1980).

Another way is to link students' learning experiences with strong positive emotions, thus enhancing their memory of these experiences (Parrott & Spackmann, 2000) especially for central details (Heuer & Reisberg, 1992). Therefore, using the way the brain operates to shape pedagogy and classroom or school environments can not only improve learning but also reduce the need for student emotion regulation.

### **What is Emotion Regulation?**

Emotions and emotional responses can serve people well, but there are times when emotional responses do more harm than "good" (Gross, 2002). This finding supports the view that emotions periodically need to be regulated, which is particularly relevant in a school setting where rules for social conduct exist. A simple definition of emotion regulation is the ability to control the experience and expression of emotions (Gross, 2002). Since students do not necessarily choose to be at school or to participate in particular learning activities, they therefore may need to regulate a variety of emotions in the classroom (Turner, Meyer & Schweinle, 2003). Teachers also face situations that may make them feel angry, frustrated, disgusted, and sad, and they need to find appropriate ways of regulating these emotions in the classroom (Hargreaves, 2000). The development of emotion regulation is therefore important for both students and teachers. Having to regulate students' and their own emotions in the classroom is commonly reported by teachers as one of the stressors of the job (Sutton, 2004). There is a paucity of research both on student use of emotion regulation strategies and on teachers' ability to regulate intense emotions, including how response to stressors may contribute to or prevent burnout (Sutton, 2004).

In some studies (for example those on emotional intelligence (Mayer & Salovey, 1997) emotion regulation is regarded as one of three general facets required for emotional competence. The other two are: (a) understanding or appraisal of emotion—the ability to correctly identify, appraise and understand emotional expressions and internal emotional states of oneself and; (b) expression of emotion—the ability to communicate one's emotions through verbal (language) and non-verbal (facial and vocal expressions, gestures, posture) means (Weare, 2004). Although emotion understanding, expression and regulation are sometimes talked of as separate concepts, emotion understanding and expression are in fact important phases of emotion regulation (Gross & Thompson, 2006). Emotion understanding and expression fit within both Koole's (2009) and Gross's (2001) emotion regulation classification systems, discussed in the next section.

As stated previously, researchers have come to realise that emotion regulation has a valuable place in the classroom. Emotion regulation enables the individual to have some control over his or her behaviour (Melnick & Hinshaw, 2000) and remain engaged with the environment. Regulation also enables students and teachers to avert/avoid negative emotions and enhance positive emotions. The employment of emotion regulation strategies can maintain individual well-being and improve interpersonal functioning (Gross & John, 2003). Therefore, emotion regulation strategies will also affect a student's ability to learn and function at school. A limited amount of classroom research has indicated that students who regulate their emotions are more successful at learning tasks (Boekaerts, 2002). Gumora and Arsenio (2002) found that early adolescents' emotion regulation and general affective dispositions made a significant contribution to academic achievement over and above the influence of other cognitive contributors.

## Classification of Emotion Regulation Strategies

Comprehension of the emotion regulation classification systems is required to understand emotion regulation strategies. A system of classification specifically designed for the classroom has not been developed, however both the Koole (2009) and Gross (2001) systems have some application to such an environment. Emotion regulation strategies have been classified according not only to the target of the strategy and psychological function (Koole, 2009) but also to where they occur on the response time-line (Gross, 2001). The main targets of emotion regulation are attention, emotion-relevant knowledge and body manifestations of emotion, while the psychological function can be need oriented, person oriented or goal oriented (Koole, 2009). Gross (2001) termed emotion regulation strategies as antecedent or response-focused. Antecedent strategies are those implemented before the onset, or in the early stages of the emotion response; whereas response-focused strategies are concerned with managing the physiological or behavioural responses to an emotion. Koole (2009) argues that many of the strategies can be used at various times along the emotion-generation timeline.

There are many strategies that people can use to regulate emotions; the classification of which depends on whether you use Gross's or Koole's system. For example, the strategy of focusing on breathing is classified by Koole as one that targets body manifestations of emotion and is person-oriented; Gross classifies this as a response-focused strategy. And the strategy of thinking about other things or deliberately distracting oneself is classified by Koole as an attention-targeting strategy with a need oriented psychological function, whereas Gross classifies it as an antecedent strategy in the category of attentional deployment.

Few researchers have examined the types of emotion regulation strategies students or teachers use in the classroom. In my doctoral research (Fried, 2010), and using Gross' classification system, I found that middle school students used a variety of antecedent emotion regulation strategies, including: 1) projection strategies— how the student will feel on completion of the task (for example, “I think about how I will feel when I have completed the task”), or the consequences of doing poorly or well (for example, “I think about how annoyed my parents will be if I don't do well at school” or “I think about what I will be able to do if I do well at school”), and 2) self-talk strategies — those related to building up confidence at the beginning of a learning task (for example, “If I am feeling hesitant in class, I tell myself *You can do it!*). They also used response-focused strategies such as thinking about other things to make them feel better. This study surveyed 200 middle school students using a modified standardised tool to measure the use of emotion and motivation regulation strategies. Focus group discussions were initially employed to develop the instrument for use with adolescent school students.

Students in my study used emotion regulation strategies infrequently. This may be because of the nature of emotion regulation strategies or because the survey given to them did not refer to all the possible strategies they used. Certainly the students also experienced difficulty in identifying the emotion regulation strategies they used. The latter may be attributed to the fact that these strategies had become taken for granted and thereby tacit (Mauss, Bunge & Gross, 2007). Thus, students may not be aware that they are using some strategies. It is also the case that the students in my study had little experience in emotion identification; however, there seems little doubt that their ability to recognize and discuss emotions and regulation strategies would improve with focus and opportunity (Zins, Bloodworth, Weissberg & Walberg, 2007). It is obvious that more research is needed to understand student use of particular emotion regulation strategies.

Teachers recognize the importance of regulating their emotions but often think this means keeping their feelings hidden from students (Carson & Templin, 2007). A study by

Sutton (2004) found that teachers believed that their ability to regulate their emotions was related to their effectiveness in the job. 'Down-regulating' negative emotions tended to be the most common goal of emotion regulation strategies although 'up-regulating' positive emotion was also viewed as important. In the Sutton study, the regulation strategy of emotion expression was also viewed as important to teacher effectiveness.

### **Adaptive Emotion Regulation**

Individuals differ in their use of emotion regulation strategies, as they differ in their experience and expression of emotions (Gross & John, 2003). By implication, emotion regulation strategies that are effective for one person may not be so for another. However, there may be some strategies that are universally effective. For example, Prizmic (2000) found that cognitive reappraisal strategies, such as a student re-evaluating the meaning of a task, have been correlated with more positive emotions; whereas passive strategies, such as distraction or avoidance correlated with more negative emotion after use, while Gross and John (2003) found cognitive strategies in general were more effective than strategies aimed at regulating the bodily affects of emotion. This, however, was only partly supported by Koole (2009) who found that progressive muscle relaxation effectively down-regulates stress.

In my study antecedent emotion regulation strategies were positively correlated with student personal competence (Fried, 2010). On the other hand, response-focused emotion regulation strategies, such as counting to ten or focusing on breathing, were found to be negatively correlated with student social competence (Fried, 2010). I also found that response-focused emotion regulation strategies were negatively related to academic engagement in the classroom. Other research (Baumeister, Bratslavsky, Muraven & Tice, 1998) has showed that overuse of certain strategies, particularly suppression strategies, seemed to have a cost, usually to the working memory. Depression may also result from the overuse of suppression (Kuhl & Fuhrmann, 1998). These research results indicate that emotion regulation strategies affect outcomes for students, with the timing of their application and the level of use highly relevant. In addition, the development of emotion regulation strategies may be similar to the development of physical skills, with some training required (Baumeister et al., 1998).

### **Enhancing Emotion Regulation in the Classroom**

Although more needs to be done to understand the affects of the use of specific emotion regulation strategies, particularly in relation to teacher strategy use, research indicates that student emotion regulation strategy use may be an important indicator of positive education outcomes. Indications to this point in time are that antecedent emotion regulation strategies have benefits over response-focused strategies. Teachers can address the development of student antecedent emotion regulation in the classroom through a number of means. One way of doing this is to model strategies that, in turn, may be used by students (Pincus & Friedman, 2004). This can assist teachers in addressing both their own and student emotions. A school focus on the importance of emotions and emotion development may frame pedagogy and curricula sufficiently such that specific structured programs are not necessary. Emotion development in the classroom can be fostered or frustrated by school structures (Hargreaves, 2000). No matter which way they are addressed, emotions in children's school experiences should not focus on what a child can't do but more about framing the place of emotion in our schools (Hoffman, 2009). School and classroom

environments that are structured around opportunities for expressivity, teacher autonomy support and a sense of belonging, as discussed below, are conducive to the healthy development of student emotion regulation strategies.

Expressive environments have been found to positively develop the emotion regulation capacity of the individual (Eisenberg, Cumberland & Spinrad, 1998). Children who are more skilled at using emotion-related language and understanding emotional experiences may be better at regulating their own arousal during distressing situations (Eisenberg et al., 1998). In my research, students from expressive families were found to be less likely than others to use response-focused strategies (Fried, 2010). It may be that expression of emotions acts as an early regulation strategy, relieving the need to employ strategies at a later stage. Although not supported by a sufficient data base, the discussion of emotional experience in the classroom could help shape the development of student emotion regulation strategies, or itself act as an emotion regulation strategy (Weare, 2004).

Talking about emotional experience can help a child to build a coherent body of knowledge about emotional expressions, situations, and causes (Denham & Kochanoff, 2002). Emotion talk gives children a tool to use in emotion regulation, allowing them to separate impulses from purposeful behavior (Thompson, 1991). In addition, teachers can learn a considerable amount by talking to individual students about their emotions as the need arises. For example, the teacher can learn about what the student values (Op 't Eynde, 2004). Having the opportunity to develop emotion knowledge through supportive forums can not only assist teachers to understand themselves and what is happening in their classrooms, but can also assist them in their own emotion regulation.

Feelings of belonging or affiliation created through the family or school environment are associated with perceptions of control, self-regulation, motivation (Baumeister, DeWall, Ciarocco & Twenge, 2005), academic achievement and development of basic psychological processes important to student success (Osterman, 2000). One of these “basic psychological processes” that Osterman links to belonging is internalization. This is explained as student ability to assimilate external regulation into the self. Students who experience internalization are able to rely on their own regulation, or self-regulation, rather than looking to external forces. In my research, students with strong feelings of family cohesion, which can enhance a sense of belonging, were more likely than others to use emotion regulation strategies (Fried, 2010). However, school affiliation did not show significant correlation with student emotion regulation strategy use. More research needs to be conducted on the concept of school affiliation and its relationship with emotion regulation.

Feelings of belonging can be enhanced in the classroom through collaborative learning (Korinek, 1999). In addition, collaborative learning situations allow students to regulate their individual emotions and those of the group (Jarvela, Hurme & Jarvenoja, 2007). This is because in collaborative learning situations students are required to constantly communicate and negotiate with other group members. Socially shared learning tasks may also provide an opportunity for the development of new strategies for motivation and emotion regulation, strategies that may not be within the repertoire of the individual (Jarvenoja & Jarvela, 2009). Problem-based learning or inquiry learning situations, often undertaken in a collaborative manner, have also been found to assist in the development of self-regulated learning strategies (Hmelo-Silver, 2004) as by their nature they allow students the autonomy to control their learning and often expose students to ambiguity. Ambiguity can enhance the development of mindfulness (Langer, 2000), discussed further on in this paper.

Teacher support in the classroom can influence emotion regulation development. Research has shown that when students feel emotionally and academically supported by their teacher, they are more likely to use self-regulated learning strategies (Ryan & Patrick, 2003) and student perception of teacher support has a direct effect on how motivated and interested

students feel in the classroom (Wentzel, 1998). In my research, teacher support made a significant contribution to the prediction of the use of antecedent emotion regulation strategies (Fried, 2010).

Teacher support can be classified as either controlling or autonomy supportive. An autonomy supportive teaching style is when students are encouraged to think for themselves, make many of their own decisions and have some control over their own learning (Reeve, Jang, Carrell, Jeon & Barch, 2004). An autonomy supportive teaching style enables students to regulate aspects of their learning, including emotions (Zimmerman & Lebeau, 2003). Evidence suggests that students are more successful and happier at school if they are encouraged to be autonomous; the degree of autonomy allowed depends on the student's stage, age, personality and attitudes (Wubbels, Brekelmans & Hoymayers, 1991).

A classroom environment that presents opportunities for meditation and mindfulness, with their focus on attention, may also enhance student emotion regulation development. Mindfulness has been defined as the process of drawing distinctions between things thus enabling one to be situated in the present (Langer, 2000). According to Ekman (2004), mindfulness involves the method of focusing on automatic biological processes such as breathing, which induce well-being and a state of calm and promote the ability to be more aware of, and regulate, emotions. Thus mindfulness is a heightened state of awareness and involvement (Langer, 2000).

Initially, research on mindfulness was located in the health sciences. But mindfulness has been shown to have relevance to education. Students have been taught to employ mindful attention through training in looking closely, investigating various perspectives and possibilities, and introducing ambiguity (Langer, 2000). Mindfulness-based practises may also help students and teachers relieve stress (Winzelberg & Luskin, 1999).

## **Conclusion**

It is recognised that many teachers have difficulty regulating the emotions of students in their classroom and the overall emotional climate of the class (Sutton, 2007). Training teachers to assist students with the regulation of their own emotions is therefore important. Teachers need a firm intellectual understanding of self-regulated learning in order to encourage students to develop these skills (Boekaerts & Corno, 2005).

It is important to recognise that student and teacher emotions and emotion regulation influence and are influenced by the emotional climate of the school as well as the principals, teachers, and parents with whom they interact (Hargreaves, 2000; Zembylas, 2007). The role that emotions play in teachers' work tends to be downplayed or ignored in policy and standards frameworks (O'Connor, 2008). A greater understanding of the role of emotions in the teaching profession can help in the training of teachers to be well equipped to tackle the demands of the classroom and achieve the goal of educating students who can take greater control of their lives.

Because emotions have a significant effect on learning and because schooling is an emotional process, there are times when students and teachers need to implement emotion regulation strategies in the classroom. Although individuals differ in their emotion experiences and expression, it is possible that some strategies are more adaptive than others. This needs further investigation in future research. Means of enhancing emotion regulation in the classroom, through supportive, collaborative and expressive classroom environments have been discussed in this article, although much is still to be learnt. Further research on emotions and emotion regulation in the classroom will help to reposition the importance of

emotions and not only assist teacher's own emotional development but also their ability to facilitate healthy emotion development of their students.

## References

- Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D.M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252-1265.
- Baumeister, R. F., DeWall, N., Ciarocco, N. J. & Twenge J. M. (2005). Attitudes and Social Cognition: Social Exclusion Impairs Self-Regulation. Florida State University and Florida Atlantic University. Retrieved November 10, 2008 from: <http://bluehawk.monmouth.edu/~nciarocc/baumeister,%20dewall%20et%20al.pdf>.
- Boekaerts, M. (2002). Toward a model that integrates motivation, affect and learning. In L. Smith, C. Rogers & P. Tomlinson (Eds.), *Development and motivation: Joint perspectives*. Leicester, England: British Psychological Society.
- Carson, R.L., Templin, T.J. (2007). Emotion regulation and teacher burnout: Who says that the management of emotional expression doesn't matter? Paper presented at the American Education Research Association Annual Convention, Chicago.
- Deci, E.L. (1980). *The psychology of self-determination*. Lexington, MA: D. C. Heath (Lexington Books).
- Denham, S., & Kochanoff, A. T. (2002). Parental contributions to preschoolers' understanding of emotions. *Marriage & Family Review*, 34 (3/4), 311-343.
- Eisenberg, N., Cumberland, A., & Spinrad, T.L. (1998). Parental socialization of emotion. *Psychological Inquiry*, 9, 241-273.
- Ekman, P. (2004). *Emotions revealed: Recognizing faces and feelings to improve communication and emotional life*. New York: Henry Holt and Company.
- Fredrickson, B. L. (2001). The role of positive emotions in positive psychology: The broaden-and-build theory of positive emotions. *American Psychologist*, 56, 218-226.
- Fried, L.J. (2010). Emotion and motivation regulation strategy use in the middle school classroom. Doctoral Dissertation, University of Western Australia.
- Greenleaf, R. K. (2002). The adolescent brain: Still ready to learn. *Principal Leadership*, 2(8), 24-25.
- Griffiths, M. (1984). Emotions and education. *Journal of Philosophy of Education*, 18(2), 223-231.
- Gross, J.J. (2001). Emotion regulation in adulthood: Timing is everything. *Current Directions in Psychological Science*, 10, 214-219.
- Gross, J.J. (2002). Emotion regulation: Affective, cognitive and social consequences. *Psychophysiology*, 39, 281-291.
- Gross, J.J., & John, O.P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, 85, 348-362.
- Gross, J.J., & Thompson, R.A. (2006). Emotion regulation: Conceptual foundations. In J.J. Gross (Ed.), *Handbook of Emotion Regulation*. New York: Guildford Press.
- Gumora, G., & Arsenio, W.F. (2002). Emotionality, emotion regulation and school performance in middle school children. *Journal of School Psychology*, 40, 395-413.
- Hargreaves, A. (2000). Mixed emotions: Teachers' perceptions of their interactions with students. *Teaching and Teacher Education*, 16, 811-826.
- Heuer, F., & Reisberg, D. (1992). Vivid memories of emotional events: The accuracy of remembered minutiae. *Memory & Cognition*, 18, 496-506.

- Hmelo-Silver, C. E. (2004). Problem-based learning: What and how do students learn? *Educational Psychology Review*, 16, 235–266.
- Hoffman, D. (2009). Reflecting on social emotional learning: A critical perspective on trends in the United States. *Review of Educational Research*, 79(2), 533-557.
- Immordino-Yang, M. H., & Damasio, A. R. (2007). We feel, therefore we learn: The relevance of affective and social neuroscience to education. *Mind, Brain and Education*, 1(1), 3-10.
- Järvelä, S., Hurme, T.R., & Järvenoja, H. (2007). Self-regulation and motivation in computer supported collaborative programs. In Ludvigsen, S., Lund, A. & Saljo, R. (Eds.), *Learning in social practices. ICT and new artifacts - transformation of social and cultural practices. EARLI series: Advances in Learning*. Pergamon.
- Järvenoja, H., Järvelä, S. (2009). Emotion control in collaborative learning situations: Do students regulate emotions evoked by social challenges? *British Journal of Educational Psychology*, 79, 463-481.
- Koole, S. (2009). The psychology of emotion regulation: An integrative view. *Cognition and Emotion*, 23, 4-41.
- Korinek, L., Walther-Thomas, C., McLaughlin, V. & Williams, B. (1999), *Creating classroom communities and networks for student support*, *Intervention in School and Clinic*, 35(1), 3-9.
- Kuhl, J. & Fuhrmann, A. (1998). Decomposing self-regulation and self-control: The volitional components inventory. In J. Heckhausen, and C. Dweck (Eds.), *Lifespan perspectives on motivation and control*. (p15-49). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Langer, E. J. (2000.) *Mindful learning*. *Current Directions in Psychological Science*, 9(6), 220-223.
- LeDoux, J. (1998). *The emotional brain*. New York: Phoenix.
- Linnenbrink, R., & Pintrich, (2000). Multiple pathways to learning and achievement: The role of goal orientation in fostering adaptive motivation, affect and cognition. In C. Sansone & J. Harackiewicz (Eds.), *Intrinsic and extrinsic motivation: the search for optimal motivation and performance*. (p195-222). San Diego, CA: Academic Press.
- Maslow, A.H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370-396.
- Mauss, I. B., Bunge, S. A., & Gross, J. J. (2007). Automatic emotion regulation. *Social and Personality Psychology Compass*, 1, 146-167.
- Mayer, J.D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. Sluyter (Eds.), *Emotional development and emotional intelligence. Implications for educators*. NY: Basic Book.
- Melnick, S.M., & Hinshaw, S.P. (2000). Emotion regulation and parenting in AD/HD and comparison boys: Linkages with social behaviours and peer preference. *Journal of Abnormal Child Psychology*, 28, 73-86.
- Op 't Eynde, P. (2004). A socio-constructivist perspective on the study of affect in mathematics education. In M. Johnsen Høines & A. B. Fugelstad (Eds.), *Proc. 28th Conf. of the Int. Group for the Psychology of Mathematics Education (Vol. 1, pp. 118-122)*. Bergen, Norway: PME.
- Osterman, K.F. (2000). Students' need for belonging in the school community. *Review of Educational Research*, 70(3), 323-368.
- Parrott, W. G., & Spackman, M. P. (2000). Emotion and memory. In M. Lewis & J.M. Haviland-Jones. (Eds.), *Handbook of Emotions*, 2nd edn., (pp. 476–490) Guilford Press: New York.

- Pekrun, R. (1992). The impact of emotions on learning and achievement: Towards theory of cognitive/motivational mediators. *Applied Psychology*, 41, 359-376.
- Pincus, D.B., & Friedman, A.G. (2004). Improving children's coping with everyday stress: Transporting treatment interventions to the school setting. *Clinical Child and Family Psychology Review*, 7 (4), 223-240.
- Prizmic, Z. (2000). Mood regulation strategies and subjective health. Unpublished doctoral dissertation. Croatia: University of Zagreb.
- Reeve, J., Jang, H., Carrell, D., Jeon, S. & Barch, J. (2004). Enhancing students' engagement by increasing teachers' autonomy support. *Motivation and Emotion*, 28(2), 147-169.
- Roseman, I.J., & Smith, C.A. (2001). Appraisal theory: Overview, assumptions, varieties, controversies. In K.R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (pp. 3-19). New York: Oxford University Press.
- Ryan, H., & Patrick, A. (2003). Identifying adaptive classrooms: Analyses of measures of dimensions of the classroom social environment. Paper prepared for the Positive Outcomes Conference, March 2003.
- Schutz, P.A., & Lanehart, S.J. (2002). Introduction: Emotions in education. *Educational Psychologist*, 37, 67-68.
- Schutz, P. A., Hong, J., Cross, D., & Osbon, J. (2006). Reflections on investigating emotion in educational activity settings. *Educational Psychology Review*, 18(4), 406-413.
- Sutton, R.E. (2004). Emotion regulation goals and strategies. *Social Psychology of Education* 7, 379-398.
- Sutton, R.E. & Wheatley, K. (2003). Teachers' emotions and teaching: A review of the literature and directions for future research. *Educational Psychology Review*, 15(4), 327.
- Thompson, R.A. (1991). Emotional regulation and emotional development. *Educational Psychology Review*, 3(4), 269.
- Turner, J.C., Meyer, D.K., & Schweinle, A. (2003). The importance of emotion in theories of motivation: Empirical, methodological, and theoretical considerations from a goal theory perspective. *International Journal of Educational Research*, 39(4-5), 375-393.
- Van Dillen, L.F., & Koole, L. (2007). Clearing the mind: A working memory model of distraction from negative mood. *Emotion*, 7(4), 715-723.
- Weare, K. (2004). *Developing the emotionally literate school*. London: Sage.
- Wentzel, K. R. (1998). Social relationships and motivation in middle school: The role of parents, teachers, and peers. *Journal of Educational Psychology*, 90, 202-209.
- Winzelberg, A. J. & Luskin, F. M. (1999). The effect of a meditation training in stress levels in secondary school teachers. *Stress Medicine*, 15, 69-77.
- Wubbels, T., Brekelmans, M., & Hooyman, H. (1991). Interpersonal teacher behavior in the classroom. In B. J. Fraser, & H. J. Walberg (Eds.), *Educational environments: Evaluation, antecedents and consequences* (pp. 141-160). Oxford, UK: Pergamon.
- Zimmerman, B. J., & Lebeau, R. B. (2003). A commentary of self-directed learning. In D. H. Evensen, & C. E. Hmelo (Eds.), *Problem-based learning: A research perspective on learning interactions* (pp. 299-313). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.
- Zins, J.E., Bloodworth, M.R., Weissberg, R.P., & Walberg, H.J. (2007). The scientific base linking social and emotional learning to school success, *Journal of Educational and Psychological Consultation*, 17(2), 191-210.

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