

EMOTIONS AND ASSESSMENT

Introduction of the 5th issue of La Revue LEeE

Céline GIRARDET

Publication version : July 2022

1. Emotions: from neuroscience to assessment in education

Emotions have originally been more of an object of research in neuroscience and psychology. Indeed, experiencing an emotion is both a psychological and somatic phenomenon. Emotions influence, among other things, our interpretations of the situation, our social functioning, and our decision-making (Damasio, 1994). They therefore inevitably play a role in the regulation of learning, making them an interesting object of investigation for the educational sciences. Although emotions were originally an object of study in the fields of neuroscience and psychology, they have gradually become an important object of research in education (Pharand & Doucet, 2013). In the educational sciences, the role of the emotional dimensions in learning processes has been widely investigated in the literature mainly from the 2000s onwards (e.g., Gabriel & Griffith, 2002; Hargreaves, 2001; Lafortune et al., 2004, 2005; Pekrun, 2006; Pekrun et al., 2002, 2011), and continues to be researched today (e.g., Audrin, 2020; Colinet & Haag, 2022; Genoud et al., 2020; Molinari et al., 2017). This issue aims to explore emotions in the field of assessment in education and training.

For this introduction, we chose to explore a line of theoretical reflection different from those presented in the articles of this issue. To do so, we turn to the neurosciences, with proposals from a book by Antonio Damasio, professor of neuroscience, neurology, and psychology, entitled "Descartes' error: Emotion, reason and the human brain" (1994), which argues for the indissociability of emotions from the situation, reason and body, and which seems to be particularly relevant to introduce the study on emotions in the field of educational assessment.

Damasio (1994) describes several varieties of feelings. The first involves feelings based on the most universal emotions: the feelings of joy, sadness, anger, fear and disgust. He then mentions feelings that represent subtle variations of the five universal emotions: for instance, euphoria is a variation of the feeling of joy, melancholy is a variation of the feeling

of sadness, annoyance is a variation of the feeling of anger, panic is a variation of the feeling of fear, revulsion is a variation of the feeling of disgust. These first two varieties of feelings are the result of an assessment of a given situation by the individual. This assessment may be very quick, as in the case of sudden dangerous situations, or it may extend over a longer period of time and result from a multifactorial assessment of a situation, as it would be the case for the feeling of jealousy, for example. In any case, Damasio reminds us that the mechanism of emotions is not as automatic as we might think and that it is not a "simple" stimulus-response process, but a response resulting from an assessment (conscious, in most cases) of a given situation.

Another variety of feelings are what Damasio calls "background feelings". These feelings, more disconnected from the five universal emotions, can be perceived as more or less pleasant and are experienced with a rather light awareness in the everyday life of each individual. These background feelings are said to represent a background state of the body and mind and to form our awareness of "how we feel", continuously, in every moment. For instance, we may feel confident, unmotivated, irritated, or anxious. These feelings can be perceived as residual physical and psychic states between occurrences of the first variety of feelings described above.

Damasio argues that feelings are just as cognitive as any other mental image, but that they are different because of their relationship with the body. For this author, feelings are messages, constructed from an assessment of a situation, which inform the individual about the current state of her or his body in relation to that situation. Feelings are therefore the result of an assessment of a given situation, and also act as referents in our interpretation of that situation.

Damasio also distinguishes the functioning of emotions according to the age of the individual. A young child is more likely to experience more "primary" (stimulus-response) emotions, whereas an adult will mainly experience "secondary" emotions arising from a conscious assessment of a situation. We thus become capable of moderating our primary emotions by rationalizing them, or of self-feeding negative feelings on the basis of ruminations, for example. Managing emotions can thus be seen as a skill that can be developed.

Reading Damasio leads us to propose several links between emotions and assessment in education:

On the side of the assessed: Emotions/feelings emerge from the assessment of situations experienced by the individual. The anticipation of an assessment event, the assessment event itself, as well as the outcome of an assessment event are particularly conducive to generating both positive and negative feelings that can be strong: stress and anxiety, but also anger, frustration, appreciation, pride, satisfaction, etc. Reading Damasio also helps to remember that an assessment situation does not automatically produce emotions. The typical feeling of fear associated with assessment does not come from assessment itself, but from the historical and cultural contexts of assessment as well as from personal and collective experiences with assessment. We have made assessment a potentially dangerous situation, but it is not inherently dangerous (as would be the situation of facing a huge grizzly bear heading towards us). The joy felt by an individual when receiving a good grade, for example, also derives from her or his assessment of the situation, including the symbolic meaning attached to the grade, the perception of the importance of this particular grade in her or his life, the anticipation of the reactions of those around her or him, the impression



that this grade is deserved or not (if this good grade was obtained by cheating, for example, the joy will certainly have a bitter aftertaste), etc.

On the side of the assessors: Emotions/feelings influence the interpretation of a situation, decision making and communication with others (Damasio, 1994), which correspond to the constituent steps of assessment (information gathering, interpretation, decision making, communication; Allal, 2008). Damasio's reading and our own research lead us to apprehend emotions/feelings as referents for assessing a situation by informing us about our ongoing state. There is a tendency among assessors to want to dismiss emotions during an assessment activity, as emotions are perceived as potentially interfering with objective reasoning. Damasio's work puts feelings back into the reasoning loop and postulates that they can assist reasoning, without replacing it, and that in any case, these feelings are inseparable from human reasoning. In this sense, we postulate that emotions/feelings are an integral part of the assessment activity by representing one of the reference systems in the teacher's multi-referential (Mottier Lopez, 2017).

Issue 5 of La Revue LEeE sets out to explore the links between emotions and assessment in education, arguing that the field of assessment is particularly suited to the study of emotions. The following sections present the texts of this issue.

2. Issue 5 of La Revue LEeE: assessment all over the place

This issue reports on studies conducted at various levels: primary (Audrin et al., 2022), secondary (Genoud, 2021), post-compulsory secondary (Hanin et al., 2022), tertiary (Girardet, 2021; Nolla et al., 2022; Walsh, 2021).

Most of the texts investigate the links between emotions and assessments from the perspective of those being assessed (Audrin et al., 2022; Genoud, 2021; Hanin et al., 2022; Walsh, 2021), one text does so from the perspective of the assessors (Nolla et al., 2022), and one text from the perspective of the learners who are both assessors and assessed (Girardet, 2021).

The different studies presented in this issue are characteristic of the multitude of ways of understanding assessment in education: teacher interactive formative assessment during reading learning exercises (Audrin et al.), modalities of remediation following a summative test (Hanin et al.), assessment as pass/fail on formative assessment tasks or as an average grade in a certain school discipline (Genoud), the preparation of assignment briefs in a university context (Walsh), distance summative assessment with the issues it raises for professors (Nolla et al.). In Girardet's text, assessment represents both an object of learning (assessment for learning in teaching and training systems), a pedagogical design (continuous assessment for learning), and a task within that design (peer feedback). The diversity is such that, with the same call for papers, the published texts all deal with a different aspect of assessment. This observation makes it possible to establish the importance of emotions in the study of formative and summative assessment, punctual and continuous assessment situations, on the side of the assessed as well as on the side of the assessor, in various educational and training contexts.

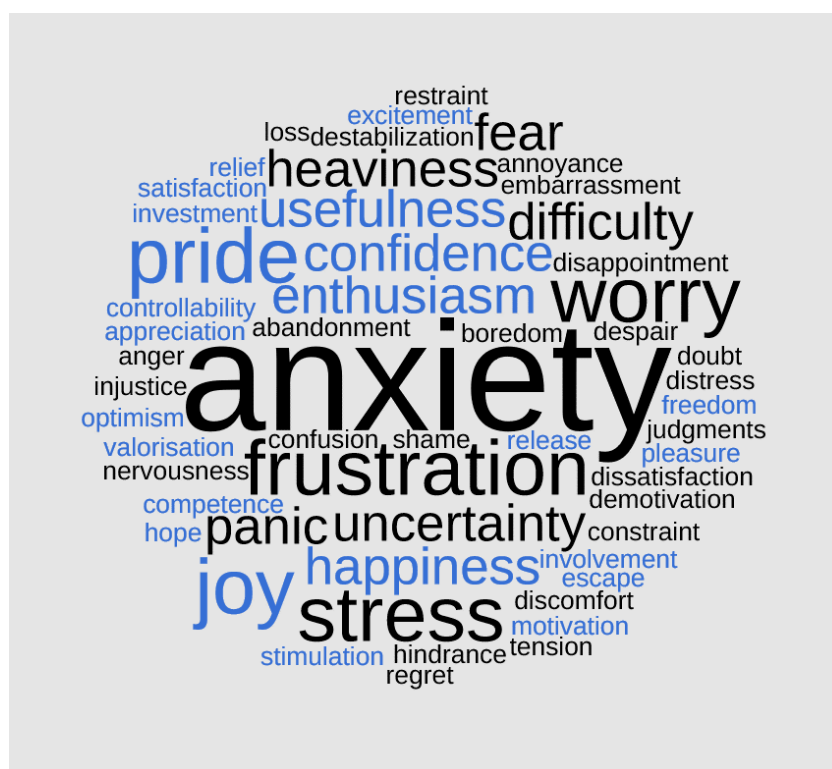


The emotions/feelings studied in the articles are diverse. In the texts by Audrin and colleagues (2022), Genoud (2021) and Hanin and colleagues (2022), learners' emotions/feelings/attitudes are collected through quantitative questionnaires. The different scales used are those of achievement emotions (Pekrun et al., 2011) for Audrin and colleagues, socio-affective attitudes toward mathematics (Genoud & Guillod, 2014) for Genoud, and performance anxiety (Gomez & Gay, 2022) for Hanin and colleagues. In the texts by Girardet (2021), Nolla and colleagues (2022), and Walsh (2021), emotions/feelings are inferred through qualitative analyses of interviews (Nolla et al., 2022; Walsh, 2021) or reflective writing (Girardet, 2021).

In the context of this introduction, we found it interesting to return to each text to note the emotions/feelings addressed in (a) the questionnaires for quantitative studies and (b) the results for qualitative studies. The word cloud below shows the emotions/feelings dealt with in the texts, the number of occurrences being represented by the size of the word (anxiety is present in all six texts; the smallest terms are present in only one text)¹.

Figure 1

Word cloud representing the emotions/feelings studied in the texts of this issue



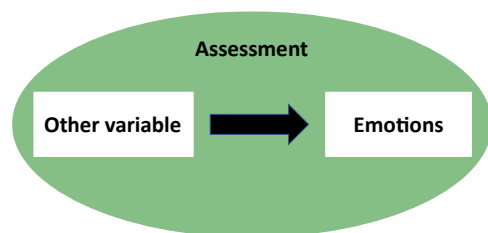
This word cloud highlights the emotions/feelings that emerged when looking at emotions related to assessment in the very diverse texts in this issue. The emotions/feelings that stand out the most are those related to fear.

The texts also differ in the way they address the links between assessment and emotions. Several configurations are observed. In the texts by Audrin et al, Hanin et al, and Genoud,

¹ Even if the term appeared several times, it was only counted once per text.

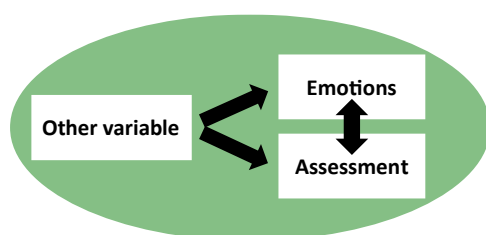
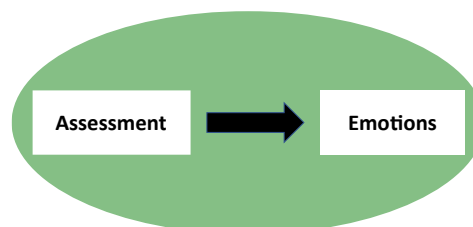


the links between assessment and emotions are approached in explanatory and correlational manner:



In Audrin and colleagues' text, formative assessment represents the context in which the influence of creative conditions on emotions (achievement emotions) is studied.

In Hanin and colleagues' text, assessment (remediation conditions) represents the explanatory variable (along with gender) for the emotions (= performance anxiety) measured.



In Genoud's text, the links between assessment (academic achievement) and emotions (socio-emotional attitudes) are studied as a function of the task and the gender of the learners.

In the texts by Walsh, Girardet and Nolla et al., the links between assessment and emotions are apprehended in a comprehensive manner. Walsh studied the emotions felt when reading assessment assignment briefs. Nolla and colleagues studied the emotions felt by university professors during the transition to distance summative assessment. Girardet studied the emotions felt by learners during peer feedback production and reception tasks.

3. What are the links between emotions and assessment in the results of the studies presented in this issue?

In this issue, the authors have proposed to answer this question in a variety of approaches and contexts. This section presents an overview of the results of each study.

The article by Catherine Audrin, Aleksandra Vuichard, and Fabian Salazar shows that, in a formative assessment situation, elementary school students involved in reading tasks experience more positive than negative emotions. The study gives evidence that encouraging creativity in young students leads to more intense positive accomplishment emotions. Creativity in reading tasks could thus encourage positive accomplishment emotions in young learners in formative assessment situations.

Philippe Genoud's article shows links between the academic performance of students in compulsory secondary school and various affective dimensions in mathematical tasks. The results also show that girls have less positive attitudes (including affective attitudes) towards mathematics than boys, despite having similar results. The study reveals that the same mathematics exercise does not produce the same emotions depending on whether the exercise is performed in the context of a mathematics course or a French course.



The article by Vanessa Hanin, Céline Lepareur, Marine Hascoët, Jérémy Pouille and Philippe Gay shows that allowing the right to make mistakes could limit the negative effects of performance anxiety in mathematics. Indeed, while post-compulsory secondary school students imagine themselves in a situation of summative assessment without remediation, with remediation in which the last grade is kept, or with remediation with the choice of keeping the best out of both grades, they report less anxiety when offered a choice, but no difference in anxiety is reported between the condition without remediation and that with retention of the last grade. The results also show higher assessment anxiety in girls than in boys.

Elaine Walsh's article shows that in a university context, assignment briefs play a role on learners' emotions. They report heightened feelings of anxiety, stress and panic when reading the briefs. Avenues for making statements less anxiety-provoking include giving students examples, templates, and clear, detailed assignment briefs. These features would, according to students and professors, reduce the emotional and cognitive load of the assessment tasks at the university level.

Céline Girardet's article shows that, in the context of peer assessment at university, giving and receiving feedback can provoke positive and negative emotions. The results show that if negative emotions can decrease motivation and involvement in the task, some of these emotions (for example, destabilization regarding the contents in play combined with a certain assessment pressure and feeling of responsibility) can also represent a lever for the regulation of learning.

The article by Jean-Marc Nolla, Jean-Gabin Ntebutse, and Julie Lyne Leroux shows that the shift to remote assessment in the context of the pandemic may have caused university professors to feel stressed, frustrated, and weighed down by assessment. The diversity of assessment modalities also revealed a sense of excitement. The article also provides insight into several strategies mobilized by professors in regulating their emotions.

References

- Allal, L. (2008). Évaluation des apprentissages. In A. van Zanten (Ed.), *Dictionnaire de l'éducation* (pp. 311-314). Presses Universitaires de France.
- Audrin, C. (2020). Les émotions dans la formation enseignante : une perspective historique. *Recherches en éducation*, 41, 5-19. <https://doi.org/10.4000/ree.541>
- Audrin, C., Vuichard, A., & Salazar, F. (2022). Les émotions d'accomplissement dans l'évaluation formative : importance de la créativité à l'école. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.04>
- Colinet, S., & Haag, P. (2022). Les émotions des élèves à l'école au XXI^e siècle : quels enjeux ? *Tréma*, 57. <https://doi.org/10.4000/trema.7423>
- Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain* [Kindle format]. Penguin Books.
- Gabriel, Y., & Griffiths, D. S. (2002). Emotion, learning and organizing. *The Learning Organization*, 9(5), 214-221. <https://doi.org/10.1108/09696470210442169>
- Genoud, P. A. (2021). Attitudes des élèves en mathématiques : quand le contexte fait ressortir l'importance des émotions. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.03>
- Genoud, P. A., & Guillod, M. (2014). Développement et validation d'un questionnaire évaluant les attitudes socio-affectives en maths. *Recherches en Éducation*, 20, 140-156. <https://doi.org/10.4000/ree.8149>



- Genoud, P. A., Kappeler, G., & Gay, P. (2020). Faut-il former les enseignants afin qu'ils cherchent à diminuer les émotions négatives de leurs élèves ou qu'ils leur apprennent à renforcer leurs émotions positives ? *Recherches en éducation*, 41, 31-45. <https://doi.org/10.4000/ree.519>
- Girardet, C. (2021). Lorsque les étudiant-es produisent et reçoivent des feedbacks entre pairs à l'université : les émotions pour apprendre. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.01>
- Gomez, J.-M., & Gay, P. (2022). Validation of a French version of a multidimensional test anxiety scale. *Manuscript in Preparation*.
- Hanin, V., Lepareur, C., Hascoët, M., Pouille, J., & Gay, P. (2022). Quelle remédiation à l'anxiété de performance en mathématiques ? Une étude comparant trois conditions d'évaluation en vue de minimiser l'anxiété mathématique. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.05>
- Hargreaves, A., (2001). Au-delà des renforcements intrinsèques : les relations émotionnelles des enseignants avec leurs élèves. *Association canadienne d'éducation de langue française*, 29(1). 1-21. <https://www.acelf.ca/c/revue/revuehtml/29-1/09-Hargreaves.html>
- Lafortune, L., Daniel, M. F., Doudin, P. A., Pons, F., & Albanese, O. (2005). *Pédagogie et psychologie des émotions*. Presses de l'Université du Québec.
- Lafortune, L., Doudin, P. A., Pons, F., & Hancock, D. R. (2004). *Les émotions à l'école*. Presses de l'Université du Québec.
- Molinari, G., Avry, S., & Chanel, G. (2017). Les émotions dans les situations collaboratives et d'apprentissage collaboratif médiatisées par ordinateur. *Raisons éducatives*, 21, 175-190. <https://www.cairn.info/revue-raisons-educatives-2017-1-page-175.htm>
- Mottier Lopez, L., (2017). Une modélisation pour appréhender la référentialisation dans l'évaluation des apprentissages des élèves. In P. Detroz, M. Crahay & A. Fagnant (Eds.), *L'évaluation à la lumière des contextes et des disciplines* (pp.169-192). De Boeck Supérieur. <https://doi.org/10.3917/dbu.detro.2017.01.0169>
- Nolla, J.-M., Ntebutse, J.-G., & Leroux, J. L. (2022). L'évaluation des apprentissages en formation à distance : l'expérience des professeurs universitaires dans la régulation des émotions. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.06>
- Pekrun, R. (2006). The control-value theory of achievement emotions: Assumptions, corollaries, and implications for educational research and practice. *Educational Psychology Review*, 18, 315-341. <https://doi.org/10.1007/s10648-006-9029-9>
- Pekrun, R., Goetz, T., Frenzel, A. C., Barchfeld, P., & Perry, R. P. (2011). Measuring emotions in students' learning and performance: The Achievement Emotions Questionnaire (AEQ). *Contemporary Educational Psychology*, 36(1), 36-48. <https://doi.org/10.1016/j.cedpsych.2010.10.002>
- Pekrun, R., Goetz, T., Titz, W., & Perry, R. P. (2002). Positive emotions in education. In E. Frydenberg (Ed.), *Beyond coping: Meeting goals, visions, and challenges* (pp. 149-173). Oxford University Press. <http://nbn-resolving.de/urn:nbn:de:bsz:352-139080>
- Pharand, J., & Doucet, M. (2013). *En éducation, quand les émotions s'en mêlent ! Enseignement, apprentissage et accompagnement*. Presses de l'Université du Québec.
- Walsh, E. (2021). The role of effective communication on students' emotional response to assessment: Written assignment brief. *La Revue LEeE*, 5. <https://doi.org/10.48325/rleee.005.02>

