

Emotional Intelligence and Learning & Teaching in Higher Education: implications for bioscience education

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Keywords: *emotional intelligence, student engagement, teaching practice, employability, ethics curriculum*

Introduction

Emotional Intelligence (EI) was popularised in 1990s by Daniel Goleman's bestselling book of the same name (Goleman 1996). EI has been criticised by scholars in the psychological community for lack of a clear definition or empirical evidence that it is anything more than a combination of already known cognitive and personality factors. Despite this controversy, there are many proponents of EI in higher education who highlight the folly of trying to separate the cognitive from the emotional. They suggest a number of practical applications for EI to improve the student experience, increase academic achievement and develop well-rounded graduates with the skills desired by employers.

The rationalist-emotional debate

Emotions are universal and intrinsic to human beings - as shown by common facial expressions to the basic emotions demonstrated in cross cultural studies (Yiend & Mackintosh 2005). These expressions are not learned as they are also exhibited by people who have been blind since birth. However, as Humphrey et al (2007) point out, reasoning has been studied separately from the emotions. In the resulting rationalist-emotional debate, which has looked at the two as polar opposites, higher education has traditionally followed the rationalist doctrine. This is because psychology has studied cognition as separate from emotion. On other hand, major theorists such as Vygotsky have proposed that the separation of the intellectual from the affective domain is one of the fundamental flaws of traditional psychology (Gleaves & Walker 2006).

What is Emotional Intelligence?

There have been various terms used to describe emotional intelligence, such as emotional competence, literacy, etc. (Humphrey et al 2007). A problem with EI (like general intelligence) is that there is no clear definition of what emotional intelligence is. Mayer et al (2004), major proponents of EI, developed model of EI comprising

four abilities: (a) perceiving emotion; (b) use of emotion to facilitate thought; (c) understanding emotions; and (d) managing emotion, i.e. “to reflectively regulate emotions so as to promote emotional and intellectual growth”.

Howard Gardiner (1993, cited in Dwyer 2002) proposed that instead of intelligence being a single phenomenon, there are multiple intelligences. These include linguistic, logico-mathematical, spatial, kinaesthetic, musical, interpersonal and intrapersonal intelligences. Some contend that EI is the same thing as the intrapersonal and interpersonal dimensions of intelligence. In her review of multiple intelligences, the Mozart effect and EI, Waterhouse (2006) criticises both multiple intelligences and EI for being no more than a combination of personality factors and cognitive abilities which have already been widely studied. Lewis et al (2005) suggest that EI may be unmeasurable due to this lack of definition. They ask whether it is “a single quality” or “a set of skills”. They also note the problem of the construct of EI being defined by what is measured. The Bar-On and MSCEIT (Mayer, Salovey, Caruso Emotional Intelligence Test) tests of EI have been criticised for being self-report assessments which are prone to various errors such as fundamental attribution error, actor observer effects, self-serving, cognitive and motivational biases (Mayer et al 2003). These image-management strategies, which are not necessarily conscious, are confounding factors in EI measurement.

Emotional Intelligence and Higher Education

Despite these criticisms, there has been a growing interest in the application of EI to higher education (HE). In his book *Teaching with Emotional Intelligence*, Alan Mortiboys (2005) explores the relevance and application of EI to teaching practice. Dacre Pool & Sewell (2007) include EI as an essential component of employability attributes, in their “CareerEDGE” model: “EDGE” stands for experience, degree, generic skills and emotional intelligence. They remark that people with high EI motivate themselves and others to achieve more.

Mortiboys uses counselling concepts to make his case for HE teaching. He endorses the qualities of acceptance (unconditional positive regard), genuineness (congruence) and empathy (understanding the feelings of the other), drawing from Humanistic counselling psychology developed by Carl Rogers. In doing so, he highlights the relationship between education and counselling. Both processes may be regarded as entailing a transformative journey (Clayton et al 2009) where the student gains knowledge and learns practical and reasoning skills which help them function better. Studies have shown that people who score highly on tests of EI have better interpersonal skills and are more positively evaluated by their peers (Jaeger 2003) - which should translate to better social interaction in the workplace.

Critics suggest that counselling deals with pathological and emotional difficulties that should be dealt with separately when they become a problem (Clayton et al 2009). Leathwood & Hey (2009) argue that HE sees emotions as private or pathological rather than part of the social context of the learning environment. This may be due

to the dominance of stoical, masculine influences on notions of what higher education should be. Yet, from the perspective of social constructionism, we are all emotional beings and emotions play a role in shaping our understanding and actions. We do not cease to have emotions when we walk into a classroom or lecture theatre.

Silver (1999) stresses the importance of emotions in the learning process and believes that not including EI in teaching is to fail the students. Even in her discipline, Law, where critical reasoning is vital, she says it is folly to try and eliminate the emotional aspects of the subject. She emphasises how the teaching process “stirs inner emotions” and that educators must be willing to acknowledge their responsibility for the feelings they arouse.

How do emotions impact on student learning?

While there is debate over the definition and validity of EI, there is evidence demonstrating positive outcomes from the applications of concepts of EI. Turner & Curran (2006) remind us of what has been known from cognitive psychology for some time, that attention is necessary for learning. They suggest attention is facilitated by positive emotional engagement. This was impeded by sessions which were dull, boring, not challenging; by poor explanations and communication; and by not feeling able to ask questions. Staff can promote student engagement by making their sessions interesting, communicating well and allowing time for questions. This requires EI in the sense of awareness of the interpersonal and intrapersonal factors to help manage emotions.

Good staff-student relationships have also been shown to have a positive impact on student performance and retention (Thomas 2002; Rhodes & Nevill 2004). Gleaves & Walker (2006) highlight how caring relationships can have a positive effect on aspirations and achievement, helping to nurture the intellect as well as the affective aspects of learning and teaching.

Conversely, negative emotional states can have a detrimental effect on the learning experience. Stress has been shown to have a negative effect on student engagement and achievement (Turner & Curran 2006). This is because when in a state of stress, the fight or flight response is activated so all the brain is concerned about is survival. Things which can cause stress include heavy workloads and assessment loads; negative feedback from staff can also be demotivating and mood reducing. Lecturers need to be aware of these impacts when developing modules, designing assessments and giving feedback, to ensure they get the balance right.

Another stress-inducing activity is the anxiety produced when having to give presentations. There is social anxiety due to the fear of negative evaluation. Topham & Russell (2012) claim that studies have found between 10% and 16% of students have clinically significant social anxiety. Among a range of suggestions as to how to reduce this anxiety, they include: helping students through the transition of coming

to university; promotion of social integration; showing sensitivity to students' reactions; creation of a safe, respectful environment to allow students to air their fears; and providing lots of constructive feedback to make them open to evaluation. The authors, however, caution us not to treat students as unduly fragile; they advocate balancing challenge with support.

Implications of EI for Bioscience Education

One area of the Biosciences where EI is important is in ensuring a psychologically safe environment for students to learn. This can be difficult when dealing with highly emotive subjects, as illustrated by Brina (2003), a sociologist who teaches a course on genocide and the holocaust - a topic with harrowing and graphic material which generates considerable emotion. In a similar vein, bioscience studies many diseases which are disfiguring and images of these can shock and disgust students.

So, what is the best way to deal with this issue? One option is simply not to show the images at all but to make the lesson as comfortable and "risk free" as possible. However, Brina warns against this avoidance of emotions, as it limits discussion and narrows the learning opportunities presented by the material. Brina argues that the emotional is intrinsically linked with the cognitive and exclusion of this aspect constrains the development of a community of critical beings. She advises that the material should be presented sensitively and in an appropriate manner. One way to do this is to use the counselling technique of signposting. Students are forewarned that they will be presented with images they may find shocking, which allows them to prepare themselves and excuse themselves if necessary.

When designing a module or curriculum, attention should be paid, therefore, to the emotional impact of the material and careful consideration given to the optimum way to present it. Communication of things to come (signposting) should be conveyed in the module handbook as well as the lesson itself. Also, the order of presentation should be considered so students are not thrown in at the deep end and turned off from the module at the start. Preliminary material can be presented first to stimulate interest and prepare students for the difficult material to come in subsequent lectures.

These suggestions are particularly relevant in the area of ethics. There are numerous areas of biomedical science where strong ethical debates exist. Due to the diverse ethnic, cultural and religious nature of the student population, there will be many differing opinions on these ethical issues held with differing degrees of passion. Lecturers need to be mindful of these differences. For example, one topic which is highly controversial is abortion. Students from religions opposed to it will be learning about pre-natal screening for various diseases, the purpose of which is to give the parents the option of terminating the pregnancy.

This phrase highlights the issue of language in generating emotions. Abortion is a very emotive word, while "termination of pregnancy" is more clinical and distances

the act from the emotional aspect, to an extent. Teachers need to ensure they do not intellectualise such subjects without acknowledging their emotional aspects. Brina (2003) warns against trivialising emotive subjects, as it trivialises the students' beliefs and affects their self esteem. This may make the learning environment seem threatening and have a demotivating effect.

In recognition of the complexity of the area of ethics, the UK Centre for Bioscience, associated with the Higher Education Academy, developed an Ethics Audit Tool (www.bioscience 2011) for use in developing an ethics curriculum. This checklist contains many references to the emotional aspects of learning. For example, it asks:

“Is explicit account taken of differences between student’s personal values and beliefs?”; “Is a suitable protected environment provided for these discussions to take place?”; “Are student’s personal values and beliefs respected?” (all from Section 7); “Is consideration given to the emotional consequences of discussion of some ethical issues by students?” (Section 8).

These questions show that the affective aspects of pedagogy are taken very seriously and should be carefully considered when designing curricula.

Section 7 indicates that respect for students is important. As well as promoting respect there are other strategies to manage emotional impact. Acknowledging students' beliefs should be handled in a sensitive manner, so rather than there being a debate about who is right or wrong, it is about seeing that differing opinions exist alongside each other. Students need this challenge if they are to become critical thinkers able to look at different sides of any debate. They also need to be challenged to keep them engaged (Turner & Curran 2006). Leathwood & Hey (2009) observe that the approach being considerate of emotional factors has often been criticised as “dumbing down” or as seeing students as “fragile or vulnerable”. But the point of taking emotions into account is to optimise the learning experience, not to protect students from everything which may make them uncomfortable.

As discussed earlier, excessive stress has a detrimental impact on student learning, and there are many ways to ensure there is as little unnecessary stress as possible. The goal is not the elimination of stress but striking a balance between challenging and overwhelming students. Feedback which is purely negative can also have a damaging effect on student morale and engagement (Turner & Curran 2006). Teachers need to be sensitive to their students' and their own emotions and how these impinge on the educational process. Reflection-in-action is part of an educator's skill set, and should include being responsive to students' emotional reactions. This highlights the dynamic, reciprocal role that emotions play in shaping the learning environment.

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