

# AFFECTIVE LEARNING IN HIGHER EDUCATION: A REGIONAL PERSPECTIVE

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## ABSTRACT

*A pilot study was conducted in a regional university setting to promote awareness of the value of affective teaching and learning amongst staff and students. Academic staff and students from diverse disciplines at University of South Australia's (UniSA) Centre for Regional Engagement (CRE) were recruited to the study. The research investigated whether engagement in mindfulness meditation by lecturers can improve their mental well-being and contribute to affective teaching and learning. The findings show that staff members learned mindfulness meditation techniques, improved their concentration and mental health status and also improved with regards to the implementation of the affective teaching skills. The impact of affective teaching practices on student learning and the perceptions of students about what constitutes 'good teaching' were also investigated. Students reported that the affective teaching of especially excellent teachers was improved through the meditation intervention. Furthermore they reported that the most important component of affective learning is that lecturers listen to them as students. The study provides important data related to the value of affective teaching and learning in a tertiary environment, as well as the potential impact on the social responsibility of graduates employed by regional businesses.*

## INTRODUCTION

The measurement of learning outcomes and a taxonomy of educational objectives, consisting of cognitive, affective and psychomotor domains was pioneered by Bloom in 1956. Cognitive objectives are satisfied when students obtain an appropriate level of knowledge, while psychomotor objectives are reached through obtaining an appropriate level of physical skill. Affective objectives refer to the acquisition of an appropriate level of internalisation or value for the content (Bolin, 2005). Picard et al. (2004, p.258) refer to the work of Neisser who, in 1963, identified three fundamental characteristics of human thought. One of these fundamental characteristics is that "human thinking begins in an intimate association with emotions and feelings which is never entirely lost". These authors also indicate that "the extension of cognitive theory to explain and exploit the role of affect in learning is in its infancy" (p. 253). Although the investigation of the affective domain and its effects on learning and teaching has received some attention in the literature, it has therefore not yet enjoyed enough support in the education system. For many years the enhancement and measurement of mostly cognitive abilities have been used as basis for educational methods (Birbeck & André, 2009) and universities have invested considerable resources in the development of courses and intellectual outcomes such as recognising, knowing, comprehending, remembering, applying and synthesising information (Bolin, 2005). They have given little attention to the emotional aspects of learning (Craig, 2011; Holland, 2006). Recent technological developments may amplify this situation if universities produce a learning environment where the depth of human interaction between both staff and students may be even further minimised.

Modern researchers have suggested that, due to globalisation and cultural and social change within communities (Morris, 2009; Napoli, 2004; Rockefeller, 1994), as well as the "therapeutic turn" that is evident in modern life (Hyland, 2009; Hyland, 2010; Napoli, 2004), a new culture in education has emerged. This resulted in a change away from solely cognitive teaching (Napoli, 2004) to a commonly accepted view that emotion is essential to successful teaching and a vital influence in the learning process. Research programs to determine the significance of affective learning and teaching can provide insight into the practical implications for learning outcomes in various fields (Craig, 2011; Holland, 2006). The affective domain is about values, attitudes and behaviours. Based on the work of Bloom (1956), Kratwohl (1964) and other earlier researchers, five categories of affective attributes have been identified, namely the ability to (i) listen, (ii) respond in interaction to others, (iii) consider attitudes or values appropriate to a particular situation, (iv) organise values to demonstrate balance and consideration and (v) display a commitment to principled practice on a day-to-day basis (Buissink-Smith, 2011). Higher education has a particular and specific function, namely to graduate influential citizens who value their environment and appreciate that they have a responsibility to help to sustain it (Shephard, 2008). The emotional, rather than cognitive, attributes will determine what students choose to do with the knowledge and skills they acquire and their personal responsibility and motivation to address social issues (Buissink-Smith, 2011).

The research described in this paper aimed to determine the value of affective teaching and learning and to provide insight into the practical implications for learning outcomes. The following research questions were addressed:

1. Can mindfulness meditation increase awareness and the ability to teach in the affective domain among academic staff?
2. Does mindfulness meditation increase psychological well-being among academic staff?
3. What is the value of affective learning and teaching for staff and students?
4. How can an emphasis on affective learning improve student learning outcomes?

The last two questions will be discussed in this paper.

## LITERATURE REVIEW

### **Affective and cognitive teaching and learning**

The cognitive domain refers to the intellectual abilities and overall understanding of content (Hansen, 2009), whereas the affective domain is referred to as feelings and emotions, also linked to values, attitudes and behaviours (Birbeck & Andre, 2009; Bolin et al., 2005; Holt & Hannon, 2006; Zhang & Lu, 2009). Other affective aspects include sensitivity to the views of others, personal responsibility, engagement, commitment to ideals and personal behavior (Buissink-Smith et al., 2011). The affective domain is often placed in contrast to the cognitive or 'thinking' domain (McNabb & Mills, 1995, Picard et al., 2004; Buissink-Smith et al., 2011, Holt & Hannon, 2006). Differentiation between cognitive and affective evaluation is essential, although it has been found that brain function for emotion and cognition overlap. Picard et al. (2004, p. 253) indicate that affect is "completely intertwined" with thinking and performing important functions of rational behavior, memory retrieval, decision-making and creativity, because "when we change our emotional states, we're switching between different ways to think".

Affective teaching can be used to optimise the cognitive domain (Birbeck & Andre, 2009; Sonnier, 1989; Zhang & Lu, 2009) and "when basic mechanisms of emotion are missing in the brain, intelligent functioning is hindered" (Picard et al., 2004, p. 253). Picard et al. (2004) indicate that a positive mood does not only make one feel better, but also enhances creativity and problem-solving and decision-making. It also increases intrinsic motivation. A combination of support in both the affective and cognitive domains is viewed as the most successful method (Huk & Ludwig, 2009; Tait-McCutcheon, 2008; Zhang & Lu, 2009). Behaviours resulting from emotional experience should be prioritised and not always be seen as irrational, and its influence on the affective domain should be noted. Empathy, responsibility, affective responses and resultant attitude can be transformed when the cognitive and affective domains are interrelated (Littledyke 2008; Moore & Malinowsky 2008; Thompson & Mintzes, 2002).

Other research (Lang, Katz & Menezes, 1998; Anderson, 1981 & Bloom, 1956 & Byrne, 1984 & Sinclair, 1985 & Walberg, 1984 cited in McNabb & Mills, 1995) shows that attitude, interest and values and the development of appreciation influence the personal learning experience. Recognition of affective motives enhances self-esteem and it was found that students' achievement levels are a consequence of self-esteem and social motives like praise and support. A 'feel good experience' is vital to the learning process in order to provide a positive cognitive end-result and maximise learning (Birbeck & Andre, 2009; Sonnier, 1989; Zhang & Lu, 2009). Likewise, what students know will influence how they feel, and affective teaching can therefore be used to optimise the cognitive domain and improve learning outcomes (Littledyke, 2008; Thompson & Mintzes, 2002). The positive student is one who experiences belonging and good relationships and whose individuality is observed and nurtured (Attwood, 2009; Day, 2009). In a study conducted by Russel (2004) student reports of positive and negative classroom experiences were mostly affective. Students were of the opinion that learning was facilitated by laughter, praise, encouragement, a helpful and cooperative peer group and by 'good' teaching. On the other hand, learning was harmed if students were made to feel uncomfortable or humiliated, by disruptive peers and by 'bad' teaching.

It is therefore important that the educator reflects on the methods of communication and convey the subject knowledge by combining cognitive and affective experience. The question arises as to the level of intervention that is needed to provide the best cognitive and affective support. Student engagement is important as the level of interest in a subject matter influences the cognitive process. This in return influences attention and concentration. Simultaneously, educators need to address personal emotions like joy, despair, frustration and hope during their teaching experience, and should be aware that affective elements are as important as cognitive components for both their students and themselves. Motivational elements therefore need to be formulated and provided within curriculums in order to address both cognitive and affective components (Demetriou & Wilson, 2009; Huk & Ludwig, 2009). Stenzel (2006) concludes that intentional intervention at the affective level needs to be strategically planned in order to reach successful results. Determining perceived outcomes for institutions can be done by comparing initial assessments with progressive and summative assessments of the affective experience. The *Rubric for Assessing Learning and Teaching in the Affective Domain* is a practical assessment strategy to evaluate affective domain outcomes (Stenzel, 2006).

### **Creating an affective learning environment**

De Jong (2009), Roeser and Peck (2009) and Russel (2004) undertook advanced studies on the emotional experience within the classroom in order to enhance the teaching and learning environment. Russell (2004) showed that the facilitation of the learning environment can be positively or negatively influenced by people interaction and physical classroom setup. Furthermore, personal issues brought into the learning environment by both students and staff, influence the affective domain. The qualities of an ideal classroom are described with words like mutual respect, friendly, relaxed, open, cooperative and advanced interpersonal skills. De Jong

(2009) added that emotions such as enjoyment, pride, anxiety and boredom play an important role in classroom atmosphere and influence students' interpretation of information and their attitude towards learning. Lesson content and structure are mentioned as a good pedagogical feature, and professionalism, enthusiasm and variation are noted as important positive factors within teaching environments (Russell, 2004).

According to Birbeck and Andre (2009) an affective learning environment can be created in three ways, namely through i) the teachers approach to teaching (how they interact with students), ii) appealing to the affective attributes of students in a deliberate form of engagement (e.g. by making them annoyed at an injustice) and iii) asking students to engage with the development and understanding of their own motivations, attitudes, values and feelings. Aspects which can improve affective teaching and learning are sharing of rationale and feelings, displaying of wholehearted involvement and expression of authentic experiences (Day, 2009; Lillard, 2011). Attwood (2009) stresses the importance of personal contact on a regular basis, either face-to-face or via email and also the importance of presenting overlapping modules to small-groups. Students prefer to be known by name and they appreciate an open door policy. Some institutions have been able to provide supportive academic assistance and the positive results are seen in reports of staff and student satisfaction (Attwood, 2009, Russell, 2004).

Difficulties regarding affective awareness within learning and teaching environments are mainly due to the growth in student numbers and the regular changes in learning support systems. Academics are also inundated with research and publishing tasks and many are therefore less able to support students sympathetically. Holt (2006) indicates that many educators primarily focus their objectives and measurable outcomes within the cognitive domain of learning, mostly because learning in the affective domain is often perceived as difficult to observe and measure. Buissink-Smith (2011) states that students should be required to develop particular attitudes and behave in particular ways, related to the values of their future profession, and that they should be assessed on their ability and willingness to do so. Birbeck (2009, p. 1) agrees by saying that affective attributes should be "overtly developed, taught and assessed", rather than embedding them in cognitive tasks. Therefore, if affective domain outcomes are claimed they should be assessed. The benefits of affective learning are improved listening and communication skills, interpersonal skills, intra-personal skills, balancing their needs with those of others, conflict resolution, accountability, self-confidence and helping others (Hansen, 2009).

### **The use of mindfulness and meditation practices to improve affective teaching and student learning**

The impact on the educator and educational institutions of the shift to a 'new' university setting is immense. The knowledge required of educators to understand, address and support the emotional challenges of students has grown considerably. Teaching in the affective domain is more complex than teaching in the cognitive or psychomotor domains (Neumann, 2008). The affective domain of learning therefore

requires higher level teaching strategies and relies on the creativity of the lecturer to develop those elements. Contemplative education as a means to develop the "whole person" enjoys considerable discussion and diverse definitions (Lillard, 2011; Roeser & Peck, 2009). Roeser and Peck (2009: 133) present contemplative practice as "a set of pedagogical practices designed to cultivate the potentials of mindful awareness and volition in an ethical-relational context in which the values of personal growth, learning, moral living, and caring for others are also nurtured". Self-awareness and the use of contemplative practices within the academic system to cultivate conscious awareness, is seen as essential for personal growth, learning and moral development (Craig, 2011; Bai, Scott & Donald, 2009; Holland, 2006; Roeser & Peck, 2009).

The wellbeing and affective awareness (mindfulness) of the lecturer is therefore an important aspect of affective teaching and learning. The benefits of such mindfulness and the use of meditative practices to obtain well-being are well documented (Brady, 2007; Hirst, 2003; Lavric & Flere, 2008; Manocha, 2011; Nelson, 2003; Oman et al., 2007; Thurman, 1994; Walach et al., 2006). Brown and Ryan (2003) and Dobkin (2008) also confirmed that a relation between mindfulness and development of well-being exists. Mindfulness meditation is seen as a valuable instrument to ease and discard mindless and restless states in our daily life and habits and transform away from the negative towards positive impulses (Hyland, 2009, 2010). Positive results of meditation include joy, rest, concentration, curiosity, diligence, equanimity and mindfulness (Brady, 2008). Evidence confirms that the cultivation of mindfulness assists in maintaining alertness, motivation and commitment (Hyland, 2010). Researchers therefore generally agree that mindfulness-based interventions result in a reduction in negative elements including stress, anxiety and depression. It is also noted that changes in self-esteem occur when meditative practices are used (Coffey, Hartman & Fredrickson, 2010; Dobkin, 2008; Greeson, 2009; Hollis-Walker & Colosimo, 2011; Hyland, 2009; Ott & Hölzel, 2006). Designed contemplative practices improve attention, assist in gaining inner-peace, improve awareness and expression, and develop compassion. This in turn improves mind and body and influences interrelationships (Burack, 1999; Coffey, Hartman & Fredrickson, 2010; Greeson, 2009; Manocha, 2011; Ott & Hölzel, 2006).

The benefits of desirable social change (Lillard, 2011; Rockefeller, 1994) with the complementary use of meditation have been proven in several research studies, especially concerning the academic field (Rockefeller, 1994; Sarath, 2003). Various techniques in mindfulness meditation were used in a study conducted by Stew (2008) in a university setting to determine the influence on stress levels as well as influence on academic work, clinical practice and personal life. Participants reported improved awareness, learning strategies, coping abilities, behavioural change and personal well-being. Reduced stress, increased awareness and happiness can therefore be achieved through mindfulness meditation in educational institutions (Morris, 2009). For instance, mindfulness training supports the educator to deal with the demands and added stress of high student numbers to increase their focus and develop attention abilities. These attributes develop creativity, which will subsequently support changes in the classroom and also improve the personal life of the educator (Napoli, 2004). Sarath (2003) maintains that meditative practices can be

incorporated into conventional studies. The main obstacle to including this practice into the daily routine was observed to be time-management (Stew, 2008). Although previous studies were generally conducted in academic settings and benefits for the educator have been noted, measurement was usually done by calculating the advantages for students.

### **Affective teaching and learning towards sustainability of rural areas**

Australia relies heavily on its rural industry, mostly due to the large investments in mining and agriculture. These industries are vitally important to the economic growth of the country as a whole (Wallis et al., nd). To remain profitable, small businesses need to operate in socially and environmentally responsible ways (Savitz and Weber, 2006). There is significant debate around a definition of such 'Corporate Social Responsibility' (CSR) but generally it is accepted that CSR refers to actions that appear to further some social good, beyond the interests of the firm and that which is required by law" (McWilliams & Siegel, 2001). Hornsby et al. (1994) refer to "business practices in light of human values" and describe business ethics as "the study of whatever is right and good for humans." Business owners face many business decisions with ethical challenges, such as employee problems, product pricing, product quality, legal issues, and government regulatory matters. CSR therefore involves complex issues such as human resource management, health and safety, relations with local communities, relationships with suppliers and consumers as well as environmental protection (Evans & Sawyer, 2010). While a considerable number of organisations claim to practise corporate social responsibility, many do not act in a socially responsible manner, because "competitive pressure is always likely to encourage bad rather than good behaviour" (Royle, 2005:51). However, it is desirable that regional businesses be able to demonstrate that they consistently achieve the desired social, environmental and ethical outcomes.

Individual employees are concerned about, contribute to and react to the business' social consciousness (Rupp et al., 2006). Ultimately, employees are responsible for implementing ethical behaviour in the day-to-day operations of a business and the achievement of CSR outcomes will largely depend on both the management and the employee's willingness to collaborate. Their value systems are a critical component of the ethical considerations that surround a business decision. In regional businesses these value systems reflect the personal attitudes of the manager/employee who might well be a graduate of the regional university campus (Sawyer & Evans, 2009). Universities in regional settings are particularly well placed to produce employees for their regions and as they are more likely to closely engage with their communities than those based in large capital cities, they can be effective in enhancing progress towards sustainability in their region of operation. Learning in the affective domain should be very beneficial in guiding the actions of these future business owners and employees.

## RESEARCH METHOD

Academic staff members and students at the University of South Australia's Centre for Regional Engagement (CRE) at the Whyalla Campus and the Mount Gambier Regional Centre were recruited to participate in the project. The CRE was specifically selected for the pilot study as the regional university campus has smaller class sizes, lecturers' offices and lecture rooms are in close proximity of each other and there tend to be closer relationships among staff and students. An e-mail containing an Information Sheet that outlined the aim of the study, gave details of the structure of the project and the research team, and invited participation was sent to all CRE academic staff. The information sheet also advised that participation was voluntary and that the project had been approved by the University of South Australia's Human Research Ethics Committee. Written consent to be involved in the study was obtained from the participants before its commencement. A combined methodological approach was used involving both surveys and individual telephonic interviews.

An initial Workshop held prior to the commencement of the academic year was attended by 14 staff members (Whyalla 9; Mt Gambier 5). Participants completed a pre-workshop questionnaire, based on Stenzel's (2006) 'Rubric for Assessing Learning and Teaching in the Affective Domain', to determine their awareness of affective teaching. The survey instrument contained two questions namely 'To what degree have you implemented this approach in your teaching?' and 'How confident are you about performing this skill?' The participants also completed the General Health Questionnaire (GHQ-12) (Goldberg & Williams, 1988) that measures psychological well-being. The first workshop focussed on what is meant by the affective domain and introduced concepts from the literature related to teaching and learning in the affective domain. It also introduced the participants to the basic principles and techniques of mindfulness meditation. Staff members also took part in a meditation exercise led by one of the researchers who is an experienced meditation practitioner. Staff members were requested to engage in meditation practice for five minutes twice a day over the next thirteen weeks and reflect on their discoveries of the effects of being mindful. They were requested to intentionally engage in deep thinking around the affective domain of learning and document strategies for promoting affective teaching and learning and document their thoughts in a diary that had been especially designed for this task. Participants were given a meditation package, including two guided meditation CDs, a meditation diary, and information/guidance meditation sheets. Further workshops were held mid-July and December. The July workshop focussed on evaluation of the participants' meditation practices; exploring and identifying key affective learning strategies from the literature; and reflective exercises to develop practical, affective learning strategies.

The final workshop held mid-December allowed participants to reflect on those aspects of the intervention that were useful/not useful in determining their affective teaching and learning strategies and how the intervention had impacted on and been applied into their teaching practices. Participants again completed the staff survey



based on Stenzel's (2006) 'Rubric for Assessing Learning and Teaching in the Affective Domain' and the GHQ-12 (Goldberg & Williams, 1988) questionnaire, to enable a comparison of responses collected at the beginning and end of the project. To assist participants in maintaining motivation following the 1<sup>st</sup> and 2<sup>nd</sup> workshop, regular e-mails of encouragement were sent attaching published articles for further reading and relevant URL links to meditation sites and information. Two individual telephone interviews were conducted between workshops 1 & 2 and workshops 2 & 3 to gather feedback on the participant's progress and identified any need for further support. Two participants discontinued their involvement in the project due to either no longer working with the organisation or no longer interested. Data from 12 academic staff (Whyalla 8; Mt Gambier 4) were included in the analysis. The detailed literature and findings related to affective teaching by the academic staff are reported in detail elsewhere.

Staff members were requested to select a class they would be teaching in the second half of the year and to implement affective learning strategies within this class. The aim was to enable the participants and their students to appreciate the importance of learning in the affective domain for improving student engagement and learning outcomes. A researcher visited the classes at the beginning of the study period to provide a brief outline of the project and invite the students to participate in the study. Students were advised that their participation was voluntary and their individual responses anonymous. Students' involvement in the study was only to complete a survey questionnaire at the start and at the end of the study period. The student survey included questions based on Stenzel's (2006) 'Rubric for Assessing Learning and Teaching in the Affective Domain' that aimed to investigate their perceptions of the importance of affective teaching and learning as part of the learning experience and determine how the students experience affective teaching. The questions were linked to those asked of the academic staff so that the same concepts were measured. This survey also contained two sections: the first section had the lead in question 'Consider the best teacher you have encountered: To what degree did this teacher implement this approach in their teaching?', the second section the lead in question 'Now reflect on what you consider to be average or standard university teaching: To what degree was this approach implemented in teaching?' Eight items were then to be ranked on a scale of one to five where 1 was 'Not at all' and 5 was 'A great deal'. A total of 66 questionnaires were collected at the beginning of the period and 47 surveys at the end. The student responses were collected and analysed and are reported in this paper.

## RESULTS AND DISCUSSION

The total sample comprised 66 students from the Centre for Regional Engagement (CRE) at the Whyalla and Mt Gambier campuses of UniSA. The survey asked students to compare the best teacher they have had dealings with as opposed to average/standard teaching. The data were analysed using a paired t-test. The results are shown in Table 1.

**Table 1: Student experience before and after the intervention**

Item	Mean pre-intervention (std dev)	Mean post-intervention (std dev)	Significance pre-intervention	Significance post-intervention
1. Listen to you as a student	.80 (.88)	.68 (1.00)	.000	.000
2. Learn from you as a student	.39 (.96)	.43 (1.02)	.001	.006
3. Reflect on personal meaning	.46 (1.13)	.53 (.95)	.002	.000
4. Identify the impact of learning on the wellbeing of others	.23 (.99)	-.19 (.85)	.066	.13
5. Provide written or verbal feedback about the personal implications related to what you're studying	.18 (1.19)	.36 (1.03)	.218	.02
6. Identify areas where value systems are challenged or affirmed	.20 (.96)	.38 (.92)	.102	.007
7. Identify implications of what has been studied for how you will behave personally	.41 (1.25)	.30 (.92)	.010	.029
8. Identify implications of what has been studied for how you will behave professionally	.35 (1.22)	.32 (.91)	.024	.02

An examination of the means of the t-test (Table 1) shows that **before the intervention** the highest mean is associated with 'listening to students' followed by 'reflecting on personal meaning on what they learned' and 'implications for professional behaviour'.

As expected most of the results of the paired samples test show statistical significance. However, the largest effect size is pair one, namely 'listening to you as a student'. It seems that this is the most important factor for students. The t-score is 7.41, which is considerably higher than that of the other pairs. Further the effect size and associated confidence interval for the difference is 0.91 which stands out (based on Cohen's guidelines of 0.2, 0.5 and 0.8 for small, medium and large effect sizes respectively). The rest are small to medium effect size differences.

**After the intervention** question 1 (listening) still has the largest effect size but to a lesser degree than before the intervention. There is, as expected, statistical significance in almost all other questions. The largest significance lies in items 1, 2, 3 and 6.

The baseline versus post-intervention results for excellent and standard teaching is reported in table 2:

**Table 2: Baseline versus post-intervention for i) excellent and ii) standard teaching**

Item	i)Excellent teaching			ii)Standard teaching		
	Mean (pre)	Mean (post)	Sig	Mean (pre)	Mean (post)	Sig
1. Listen to you as a student	4.21	4.46	.043	3.41	3.72	.057
2. Learn from you as a student	3.16	3.64	.001	2.76	3.21	.016
3. Reflect on personal meaning	3.91	4.19	.074	3.49	3.66	.356
4. Identify the impact of learning on the wellbeing of others	3.63	4.04	.006	3.39	3.62	.223
5. Provide written or verbal feedback about the personal implications related to what you're studying	3.56	3.83	.110	3.42	3.45	.909
6. Identify areas where value systems are challenged or affirmed	3.61	4.02	.002	3.42	3.62	.278
7. Identify implications of what has been studied for how you will behave personally	3.76	4.04	.103	3.35	3.75	.039
8. Identify implications of what has been studied for how you will behave professionally	3.91	4.13	.145	3.59	3.79	.32

There are quite significant improvements in student evaluation of **excellent** teachers. In each case the scores show an improvement and even where the results are not significant, the scores are moving in the right direction. The mean scores on 'Listen to you as a student-best' has increased and the change is just significant. For the items 'Learn from you as a student-best', 'Identify where value systems challenged or affirmed-best' and 'Impact of learning on wellbeing of others-best' the increase in

scores is very significant ( $p=0.001$ ,  $p=0.002$  and  $p=0.006$  respectively). The mean scores are increasing on other categories, but they are not significant.

As evident in table 2, although there are a few significant improvements for **standard teaching**, the student perception of improvement in the 'standard' teacher is much less than the perception of, improvement in the excellent teacher. All the mean scores are increasing, but the only significant results are for the items 'Identify implications for how behave personally' ( $p=0.039$ ) and 'Learn from you as a student' ( $p=0.016$ ). The result for 'Listen to you as a student-standard' falls just outside of significance ( $p=0.057$ ). The mean scores increase for other categories but they are not statistically significant.

The research findings support that the intervention has made a difference to student perception of the excellent teacher. However, the intervention has had less impact on the perception of the standard teacher. This means that when academic staff members engage in mindfulness meditation students perceptions of affective learning change, and, in particular, students increasingly recognise affective attributes amongst teachers they consider to be excellent. The study findings support that mindfulness meditation is a valuable practice for both students and academic staff to improve teaching and learning outcomes. This is in support of other studies conducted in diverse educational institutions which have provided positive results in interrelationships and the building of self-esteem. Positive change of values and attitudes are reported and the improvement of stress-levels and general psychological well-being due to contemplative practices. The influence of mindfulness meditation on the affective domain is undoubtedly positive, but the methods to include more diverse participants need more attention in future research. There is a need for broader research with a well-designed methodology to provide workable meditative methods within academic institutions (Burack, 1999; Shapiro, Brown & Astin, 2008; Lillard, 2011).

In summary, this study found that all participants learned mindfulness meditation techniques and most improved their awareness of affective teaching and learning. Participants improved with regards to the implementation of the affective teaching skills as well as building more confidence in carrying out these skills. The intervention has improved the affective student learning experience. It especially made a difference to student perception of the excellent teacher. Listening to students has been identified as the main difference between excellent and average affective teaching.

## SUMMARY AND CONCLUSIONS

Previous studies have identified that the personal interactions between students and academics that are central to the learning process are in jeopardy (Attwood, 2009). Learning cannot be separated from emotion as emotion is essential to learning. Students who are anxious, angry or depressed do not take in information efficiently and therefore do not learn effectively (Picard et al., 2004). Teaching should therefore not ignore emotion as a vital influence in the learning process (Zhang & Lu, 2009). A

combination of support in both the affective and cognitive domains is viewed as the most successful teaching method (Huk & Ludwig, 2009; Tait-McCutcheon, 2008; Zhang & Lu, 2009). Emotional awareness, in oneself and in others, is a learnable skill of emotional intelligence. Therefore, an important response to this problem is to help students become more aware of their affect and to encourage them to reflect upon how their state is influencing their learning experience (Picard et al., 2004).

Regional universities play a vitally important role in sustaining and fostering the economic prosperity of rural regions that hold some of the country's most valuable resources and commodities. These universities are expected to more closely engage with their local communities than their larger, older and often better resourced counterparts in the major population centres. This 'engagement' depends on productive partnerships that yield mutually beneficial outcomes to the university and community alike (Evans & Sawyer, 2010). Penman and Ellis (2003:8) refer to a university and its community as "subsets of each other" which are "inextricably part of each other". The Higher education institutions need to be responsive to the social, economic and cultural needs of the communities in which they are located and foster a more active engagement with these communities (Wallis et al., nd). The Universities can contribute by producing knowledgeable and skilled graduates who are practitioners in sustainability, through research, by providing best practice in their own activities, and through partnerships. Chalkley (2006) indicates that education's most valuable contribution to sustainability lies in "providing large numbers of graduates with the knowledge, skills and values that enable business, government and society as a whole to progress towards more sustainable ways of living and working". Positive outcomes for the community include regional economic growth, research and innovation, and development of human and social capital. The obligation for community engagement is one that rests with all higher education institutions, but regional institutions and campuses have a special responsibility to their communities (Commonwealth of Australia 2002, p. 32).

Many educators are comfortable with teaching processes that emphasise a willingness to listen, to discuss and to acquire information, but they may not be comfortable with a quest for higher order outcomes relating to opinions and behaviours. However, Higher Education for sustainability must seek outcomes that involve not only knowledge and skills but also the values that underpin sustainable behaviour by businesses, government and society. Education for sustainability seeks three primary outcomes: graduates should know about sustainability issues; they should have the skills to act sustainably if they wish to; and they should have the personal and emotional attributes that require them to behave sustainably. It is quite possible for learners to learn about their subject and be able to describe, understand, apply, analyse, synthesise, evaluate and pass their exams, without actually changing their attitudes that will determine how they will respond or behave afterwards. Students should be self-reliant, have the ability to cooperate or even lead, have confidence and a commitment to constantly seek new ways to achieve and to reassess their decisions (Shephard, 2008).

## **LIMITATIONS OF THE RESEARCH**

Although no prior knowledge of meditation, religious or philosophical connections were required to participate in this study, the participants who self-selected demonstrated an interest in meditation practices and some had prior exposure to mindfulness meditation. This may have introduced sample bias. Furthermore, due to this being a pilot study the sample size was small.

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## REFERENCES

- Bai, H., Scott, C. & Donald, D. (2009). Contemplative Pedagogy and revitalization of Teacher Education. *Alberta Journal of Educational Research*, 55(3), 319 – 334.
- Birbeck, D. & Andre, K. (2009). The Affective Domain: beyond simply knowing. *ATN (Australian Technology Network) Assessment Conference 2009*, RMIT University, Melbourne, November 19, 20, 40 – 47.
- Bolin, A.U., Khramtsova, I. & Saarnio, D. (2005). Using Student Journals to Stimulate Authentic Learning: Balancing Bloom's Cognitive and Affective Domains. *Teaching of Psychology*, 32(3), 154 – 159.
- Bloom, B.S. (1956). *Taxonomy of educational objectives: the classification of educational goals*. McKay: New York.
- Brady, R. (2007). Learning to Stop, Stopping to Learn: Discovering the Contemplative Dimension in Education, *Journal of Transformative Education*, 5(4), 372 – 394.
- Brady, R. (2008). Realizing True Education with Mindfulness. *Journal of the Sociology of Self-Knowledge*, 6(3), 87 – 98.
- Brown, K.W. & Ryan, R.M. (2003). The Benefits of Being Present: Mindfulness and Its Role in Psychological Well-Being. *Journal of Personality and Social Psychology*, 84(4), 822 – 848.
- Buissink-Smith, N. Mann, S. & Shephard, K. (2011). How Do We Measure Affective Learning in Higher Education? *Journal of Education for Sustainable Development*, 5(1), 101-114.
- Burack, C. (1999), Returning meditation to education. *Tikkun*, 14(5), 41 – 46.
- Chalkley, B. (2006). Education for sustainable development: continuation, *Journal of geography in Higher Education*, 30(2), 235-236.
- Coffey, K.A., Hartman, M. & Fredrickson, B.L. (2010). Deconstructing Mindfulness and Constructing Mental Health: Understanding Mindfulness and its Mechanisms of Action. *Mindfulness*, 1, 235 – 253.
- Commonwealth of Australia, (2007). Building a Strong Future for Regional Australia. Online, accessed 15 June 2012. <[www.ag.gov.au/ccca](http://www.ag.gov.au/ccca)>.
- Craig, B. (2011). Contemplative Practice in Higher Education: An Assessment of the Contemplative Practice Fellowship Program, 1997 – 2009. Center for Contemplative Mind in Society, Northampton, 1 – 124.
- Dobkin, P.L. (2008). Mindfulness-based stress reduction: What processes are at work? *Complementary Therapies in Clinical Practice*, 14, 8 – 16.

- Evans, N. & Sawyer, J. (2010), CSR and Stakeholders of Small Businesses in Regional South Australia. *Social Responsibility Journal*, 6(3), 433-451.
- Garland, E. & Gaylord, S. (2009). Envisioning a Future Contemplative Science of Mindfulness: Fruitful Methods and New Content for the Next Wave of Research. *Complementary Health Practice Review*, 14(1), 3 – 9.
- Goldberg, D. & Williams P. (1988). *A user's guide to the HHQ.*: NFER-Nelson: Windsor, UK.
- Greeson, J.M. (2009). Mindfulness Research Update: 2008. *Complementary Health Practice Review*, 14(1), 10 – 18.
- Hansen, K. (2009). Strategies for Developing Effective Teaching Skills in the Affective Domain. *Strategies*, 23(1), 14-19.
- Hirst, I.S. (2003). Perspectives of mindfulness. *Journal of Psychiatric and Mental Health Nursing*, 10, 359–366.
- Holland, D. (2006). Contemplative Education in Unexpected Places: Teaching Mindfulness in Arkansas and Austria. *Teachers College Record*, 108(9), 1842-1861.
- Hollis-Walker, L.H. & Colosimo, K. (2011). Mindfulness, self-compassion, and happiness in non-meditators: A theoretical and empirical examination. *Personality and Individual Differences*, 50, 222–227.
- Holt, B.J. & Hannon, J.C. (2006). Teaching-Learning in the Affective Domain. *Strategies*, 20(1), 11 – 13.
- Hornsby, J.S., Kuratko, D.F., Naffziger, D.W., LaFollette, W.R. & Hodgetts, R.M. (1994). The ethical perceptions of small business owners: a factor analytic study, *Journal of Small Business Management*. October.
- Huk, T. & Ludwig, S. (2009). Combining Cognitive and Affective Support in order to promote Learning. *Learning and Instruction*, 19, 495 – 505.
- Hyland, T. (2009). Mindfulness and the Therapeutic Function of Education. *Journal of Philosophy of Education*. 43(1), 119 – 131.
- Hyland, T. (2010). Mindfulness, adult learning and therapeutic education: integrating the cognitive and affective domains of learning. *International Journal of Lifelong Education*, 29(5), 517–532.
- Krathwohl, D., Bloom, B. & Masia, B. (1964). *Taxonomy of Educational Objectives, Handbook II: The affective domain*. David McKay Co: New York.
- Lang, P., Katz, Y. & Menezes, I. (1998). *Affective education: a comparative view*, Cassell, London.



- Lavric, M. & Flere, S. (2008). The Role of Culture in the Relationship Between Religiosity and Psychological Well-being. *Journal of Religion and Health*, 47, 64-175.
- Lillard, A.S. (2011). Mindfulness Practices in Education: Montessori's Approach. *Mindfulness*, 2(2), 1 - 12.
- Littledyke, M. (2008). Science education for environmental awareness: approaches to integrating cognitive and affective domains. *Environmental Education Research*, 14(1), 1 - 17.
- Manocha, R. (2011). Meditation, mindfulness and mind-emptiness, *Acta Neuropsychiatrica*, 23, 46-47.
- McNabb, J.G. & Mills, R (1995). Tech Prep and the Development of Personal Qualities: Defining the Affective Domain. *Education*, 115(4), 589 - 592.
- McWilliams, A. & Siegel, D. (2001). Corporate social responsibility: a theory of the firm perspective, *Academy of Management Review*, 26(1), 117-27.
- Moore, A. & Malinowski, P. (2008). Meditation, mindfulness and cognitive flexibility. *Consciousness and Cognition*, 18, 176 - 186.
- Morris, I. (2009). *Teaching happiness and well-being in schools: learning to ride elephants*, Continuum International Publishing Group, London.
- Napoli, M. (2004). Mindfulness Training for Teachers: A Pilot Program. *Complementary Health Practice Review*, 9(1), 31 - 24.
- Nelson, D. (2003). Hopi Shooting Starts: Mindfulness in Education. *The International Journal of Humanities and Peace*, 59 - 60.
- Oman, D., Shapiro, S.L., Thoresen, C.E., Flinders T., Driskill, J.D. & Plante, T.G. (2007). Learning from Spiritual Models and Meditation: A Randomized Evaluation of a College Course. *Pastoral Psychology*, 54, 473 - 493.
- Ott, U. & Hölzel, B. (2006). Relationships between Meditation Depth, Absorption, Meditation Practice and Mindfulness: A Latent variable approach. *The Journal of Transpersonal Psychology*, 38(2), 179 - 199.
- Penman, J. & Ellis, B. (2003). Mutualism in Australian regional university-community links: the Whyalla experience, *Queensland Journal of Educational Research*, 19(2), 119-36,
- Picard, R.W., Papert, S., Bender, W., Blumberg, B., Breazeal, C., Cavallo, D., Machover, T., Resnick, M., Roy, D. & Strohecker, C. (2004). Affective learning - a manifesto. *BT Technology Journal*, 22(4), 253-269.

- Rockefeller, S.C. (1994). Meditation, Social Change, and Undergraduate Education. *Centre for Contemplative mind in society*, Meeting of the Working Group, Social Change, and Undergraduate Education October 2, Pocantico, New York.
- Roeser, R.W. & Peck, S.C. (2009). An Education in Awareness: Self, Motivational and Self-Regulated Learning in Contemplative Perspective. *Educational Psychologist*, 44(2), 119 – 136.
- Royle, T. (2005). Realism or idealism? Corporate social responsibility and the employee stakeholder in the global fast-food industry, *Business Ethics: A European Review*, 14(1), 42-55.
- Rupp, D.E., Ganapathi, J., Aguilera, R.V. & Williams, C.A. (2006), Employee reactions to corporate social responsibility: an organisational justice framework, *Journal of Organisational Behaviour*, 27, 537-43.
- Russel, M. (2004). The importance of the Affective Domain in Further Education Classroom Culture. *Research on Post-Compulsory Education*, 9(2), 249-270.
- Sarath, E. (2003). Meditation in Higher Education: The Next Wave? *Innovative Higher Education*, 27(4), 215 – 233.
- Savitz, A.W. & Weber, K. 2006. The triple Bottom Line. *Jossey Bass. California*
- Sawyer, J. & Evans, N. (2009). *The Sustainability of Regional South Australia: Attracting and Retaining Skilled Employees in Small Business*, *The International Journal of Environmental, Cultural, Economic and Social Sustainability*, 5(6), 227-238.
- Shephard, K. (2008). Higher education for sustainability: seeking affective learning outcomes. *International Journal of Sustainability in Higher Education*, 9(1), 87-98.
- Shapiro, S.L., Brown, K.W. & Astin, J.A. (2008). Toward the Integration of Meditation into Higher Education: A Review of Research, *The center for Contemplative Mind in Society*.
- Sonnier, I.L. (1989). *Affective education: methods and techniques*, Educational Technology Publications, Inc. New Jersey.
- Stenzel, E.J. (2006). A Rubric for Assessing in the Affective Domain for Retention Purposes, *Assessment Update*, 18(3), 9 – 11.
- Stew, G. (2008). Mindfulness and Post Graduate student learning, in *Secondary Education Issues and Challenges*, ed Knudsen, HV, Nova Science Publishers, New York.
- Tait-McCutcheon, S.L. (2008). Self-Efficacy in Mathematics: Affective, Cognitive, and Conative Domains of Functioning, in *Proceedings of the 31st Annual Conference of the Mathematics Education Research Group of Australasia*, Brisbane, 507 – 513.

- Thompson, T.L. & Mintzes, J.J. (2002). Cognitive structure and the affective domain: on knowing and feeling in biology. *International Journal of Science Education*, 24(6), 645 - 660.
- Thurman, R.A.F. (1994). *Meditation and Education: Buddhist India, Tibet and Modern America, The Contemplative Mind in Society Meeting of the Working Group*.
- Walach, H., Buchheld, N., Buttenmüller, Kleinknecht, N. & Schmidt, S. (2006). Measuring mindfulness - the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40, 1543-1555.
- Wallis, R. L., Wallis, A. M. & Harris, C. M. (nd). How Universities Can Enhance Sustainable Development through Successful Engagement with their Regional Communities. Deakin University, Warrnambool, Victoria, Australia. Online at <http://www.engagingcommunities2005.org/abstracts/Wallis-Robert-final.pdf>. Accessed 3/7/2012.
- Zhang, W. & Lu, J. (2009). The Practice of Affective Teaching: A View from Brain Science. *International Journal of Psychological Studies*, 1(1), 35 - 41.