**Academic boredom, approaches to learning and the final-year degree outcomes of undergraduate students**

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**Abstract**

*Academic boredom, the boredom experienced by undergraduates at university or college, is a complex but largely negative and disabling achievement-related emotion. In this mixed-methods exploration of 224 students attending a single institution in England, academic boredom was found to arise at the point of course delivery itself, while studying at other times and during the completion of assignments for the purposes of assessment. Quantitative data from the BPS-UKHE and ASSIST questionnaires, meaningfully enriched with qualitative data from ten semi-structured research interviews, indicate that those with a measurably higher propensity or habitual disposition towards academic boredom than others were among the most adversely affected, displaying the deep, strategic and surface profiles of ‘less effective learners’. This was reflected in, for example, their interest in ideas, their ability to organise resources and manage time and what they had to memorise or do to ‘get by’ and pass, as well as their achievement motivation and sense of purpose. As an integral part of a greater emotional dynamic and evolving network of other contributing factors, this translated into a corresponding reduction in average final degree mark and fewer ‘good’ degree awards. Recommendations surrounding boredom mitigation and approaches to learning are presented which warrant serious consideration. With recent and growing levels of attention internationally, the work presented here makes an important contribution to a surprisingly neglected and underdeveloped field of UK higher education research and the student engagement agenda.*

Keywords: academic boredom, BPS-UKHE, approaches to learning, ASSIST, deep, strategic, surface, mixed-methods, student engagement

**Introduction and purpose**

Recently identified as a complex but largely negative and disabling achievement-related emotion, academic boredom contributes usually adversely towards student engagement, learning and overall performance at university or college (Schutz and Decuir, 2002; Schutz and Pekrun, 2007; Linnenbrink-Garcia and Pekrun, 2011). Despite this, and the rapid growth in international interest witnessed over recent years (e.g. Acee et al., 2010; Goetz et al., 2014; Pekrun et al., 2014; Tze et al., 2014, 2016), the formal study of academic boredom among undergraduate students in the UK remains a surprisingly neglected and underdeveloped field (Mann and Robinson, 2009; Authors, 2016a,b). By way of contrast, the approaches undergraduates adopt with respect to studying and learning, including their motivation and intentions for doing so, are particularly well documented and more comprehensively understood (e.g. Entwistle et al., 2000; Lizzio et al., 2002; Byrne et al., 2009; Diseth, 2013; Parpala et al., 2013; Teixeira et al., 2013). Inspired by the related and insightful work of Trigwell et al. (2012) in Australia, the quantitative and qualitative relationships between academic boredom, approaches to learning and final year degree outcomes among 224 Education Studies students attending a single university in England are explored and presented together in detail for the first time. As predicted by Control-Value Theory (Pekrun, 2000, 2006), where our work is located, it would not be considered unreasonable to presuppose that those respondents with a greater propensity or habitual disposition towards academic boredom than others also display the study habits of ‘less effective learners’, ultimately resulting in lower overall grades. With perhaps profound implications for professional practice, the recommendations surrounding boredom mitigation and approaches to learning presented challenge cultural traditions and pedagogical norms.

**Review of literature**

*Academic boredom as state and trait*

Academic boredom, referring specifically to the boredom experienced by undergraduate students at university or college, has origins in the early studies of boredom in the workplace undertaken by psychologists, psychotherapists and psychiatrists leading up to and throughout the 1980s (e.g. Smith, 1981; Perkins and Hill, 1985; Moroldo, 1986). Already identified by then as a somewhat ‘universal’ phenomenon with complexly inter-related cognitive, affective, behavioural and motivational dimensions, the description of boredom as an elusive and aversive emotional state (the perception of feeling bored by any individual at any given moment in time), usually occurring within minutes of starting a task in which the pattern of sensory stimulation is nearly constant or highly repetitive, remains one of the most useful (O’Hanlon, 1981). Indeed, the first means by which boredom could be easily and reliably measured as a trait (the recurring propensity or habitual disposition of any individual towards becoming bored) also came in the 1980s with publication of the Farmer and Sundberg (1986) Boredom Proneness Scale (BPS). Described later and more precisely as an unpleasant and transient event experienced as a ‘pervasive lack of interest in and difficulty concentrating on the current activity’ (Fisher, 1993: 396), boredom proneness became closely associated with a number of conditions including loneliness and withdrawal, anxiety, depression, neuroticism and stress, irritability and agitation, disruptive or aggressive behaviours, risk-taking, drug and alcohol abuse, smoking, gambling, over-eating, sexual promiscuity, self-harm and suicidal tendencies (e.g. Mikulas and Vodanovich, 1993; Darden and Marks, 1999; Watt and Vodanovich, 1999; Harris, 2000; Vodanovich, 2003a). Despite questions surrounding its age and psychometric properties (Mercer-Lynn et al., 2011; Fahlman et al., 2013), the BPS remains very much in use today (e.g. Bruursema et al., 2011; Goldberg et al., 2011; Kass et al., 2011; Malkovsky et al., 2012), albeit in sometimes modified and more culturally and contextually appropriate forms including the BPS-UKHE adopted here (Authors, 2016a).

*Contemporary perspectives*

Until recently, and largely as a result of its portrayal as a ‘universal’ and multidimensional construct, with the attribution and misattribution of all manner of things to boredom and vice versa, attempts to reach any agreed definition or to locate boredom theoretically have proved particularly problematic (Vogel-Walcutt et al., 2012; Fahlman et al., 2013). In the form of an achievement-related emotion, however, academic boredom is now considered an intense and often brief psycho-physiological change arising in response to a supposedly meaningful educational event (Pekrun et al., 2002); wanting but being unable to engage with something interesting or satisfying to do (after Eastwood et al., 2012). Similarly, and alongside other achievement-related emotions, both positive (e.g. hope, pride, joy, contentment, enthusiasm and relief) and negative (e.g. fear, frustration, hopelessness, guilt, shame, disappointment, dissatisfaction, resentfulness, envy and bafflement), academic boredom contributed towards the development of Control-Value Theory which acknowledges its complexity and hybridity in real-life educational settings (Pekrun, 2000, 2006). In essence, Control-Value Theory offers an important domain-specific alternative to the more ‘global’ theories of adult and lifelong learning incorporating emotion (e.g. Illeris, 2003), making provision for the prediction of educational outcomes based upon the emotions aroused in relation to work undertaken and the importance attached to completing it. Summarised usefully by Ruthig et al. (2008), for example, students anticipate academic success or failure depending upon what they attribute to the successes or failures of the past and the extent to which they believe they can exert any influence over those personal or environmental factors considered responsible. Negative and normally disabling emotions like academic boredom are thought to impede the benefits of control, thereby leading to disengagement and under-achievement. Recent psychological studies involving students from Germany, Canada, the United States, the Philippines and China, where the field is more established, are now widely available (Acee et al. 2010; Goetz et al., 2010, 2014; Pekrun et al., 2009, 2010, 2014; Villavicencio and Bernardo, 2013; Tze et al. 2013, 2014). Including that work conducted within the UK (Mann and Robinson, 2009; Authors, 2016b), academic boredom has revealed itself to arise in different places, at different times, in different ways and for many different reasons, all of which we shall return to later.

*Deep, strategic and surface approaches to learning*

As indicated earlier, how students approach what they have to study and learn is a relatively mature field of higher education research (Entwistle et al., 2000; Lizzio et al., 2002; Entwistle and Peterson, 2004; Byrne et al., 2009; Entwistle, 2009; Diseth, 2002, 2007, 2013; Parpala et al., 2010, 2013; Teixeira et al., 2013). Approaches research has its own origins in the phenomenographic work of Marton and Säljö (1976a,b) and the outcomes arising from questions put to students after reading a passage of academic text. Two qualitatively different levels of processing were observed: one involving the search for author meaning and personal understanding, referred to now as a deep approach, the other simply committing text to memory for the purposes of reproduction, referred to now as a surface approach. A third and strategic approach, the intention to maximise the use of resources and study effort, was identified later (Entwistle and Ramsden, 1983; Biggs, 1987). The basic characteristics of each are summarised as shown (Table 1). While subsequent studies closely replicated the original methodology of Marton and Säljö (e.g. Webb, 1997; Fyrenius et al., 2007; Karagiannopoulou and Entwistle, 2013), most now involve the use of questionnaire-type inventories (Biggs, 1993; Vermunt, 1998; Biggs et al. 2001; Entwistle and McCune, 2004; Richardson, 2004; Haggis, 2009; Mogashana et al., 2012) including the Approaches and Study Skills Inventory for Students adopted here (ASSIST: Tait et al. 1998; see also Diseth, 2001; Byrne et al., 2004; Cristina et al., 2010; Abedin et al., 2013; Bilgin et al., 2014).

**[Insert Table 1 as close to here as possible.]**

*Course, task and assessment requirements*

At its most productive, and with its own theoretical and conceptual framework in the motives, intentions and processes of studying to learn as influenced by the personal and environmental experiences of higher education (Entwistle and McCune, 2004; Entwistle, 2009), approaches to learning research has been used to identify the deep, strategic and surface profiles common to ‘more effective’ and ‘less effective learners’ and to consider student responses and adaptations towards specific course, task and assessment requirements across different disciplinary contexts and cultural boundaries (Richardson, 1994; Kember, 2000; Entwistle and Entwistle, 2003; Richardson and Price, 2003; Sadlo and Richardson, 2003; Minbashian et al., 2004; Reid et al., 2005; Baeton et al., 2010; Hamm and Robertson, 2010; Dennehy, 2014). This has found particular application operationally in terms of helping to ensure the constructive alignment between how courses are developed and received (Tait and Entwistle, 1996; Prosser and Trigwell, 1999; Trigwell et al., 1999; Biggs and Tang, 2011). In terms of academic achievement, students displaying stronger deep and strategic rather than surface profiles, or where flexibility and a range of different cognitive strategies are required, tend to do better than others, though outcomes can be highly variable (Kember et al., 1995; Kember, 1996; Scouller, 1998; Evans et al., 2003; Gijbels et al., 2005; Heikkilä and Lonka, 2007; Nelson Laird et al., 2008; Diseth, 2002, 2007, 2013; Campbell and Cabrera, 2014). The considerable body of evidence now available suggests that these profiles occur less as discrete entities and more of a continuum as study habits and practices evolve over time (Zeegers, 2001; Case and Gunstone, 2002; Case and Marshall, 2004; Vermunt and Minnaert, 2003; Reid et al., 2005; Ballantine et al., 2008). In the study of performance outcomes among 388 first-year biology students at the University of Sydney reported by Trigwell et al. (2012), more positive emotions and the adoption of deeper over surface approaches were clearly associated with higher assessment scores and vice versa. Sharing many features in common (e.g. complexly inter-related cognitive, affective, behavioural and motivational dimensions), both academic boredom and approaches to learning are of sufficient importance in terms of student engagement to warrant further investigation in a single study.

**Methodology**

*Research design, sampling, ethics and instrumentation*

The work presented here forms part of an on-going mixed-methods research project intended to explore the relationship between academic boredom and the student experience of higher education. Sequential in nature (Gorard, 2004; Johnson et al., 2007; Creswell and Plano-Clark, 2011), the quantitative data were generated first from a survey instrument incorporating the BPS-UKHE questionnaire to measure and interrogate academic trait boredom (details and scoring procedures in Appendix 1) and the ASSIST questionnaire to measure and interrogate deep, strategic and surface approaches to learning (details and scoring procedures in Appendix 2). The qualitative data, providing rich reflections on academic state boredom and meaningful insight into how some respondents went about studying and preparing assignments in particular, arose from ten semi-structured research interviews conducted afterwards (Tashakkori and Teddlie, 1998; Greene, 2007). Final degree outcomes were obtained from student records with permission (as percentage scores and traditional degree classifications). The sampling strategy adopted for both questionnaire distribution and the selection of participants for interview was both purposive and convenient (Cohen et al., 2011) with due consideration directed towards the overall aims of the project as a whole, its methodology and the elusive, transient and situated nature of academic boredom as described. All of those involved were drawn from three cohorts of full-time, third and final-year undergraduates on a combined honours Education Studies programme at a single university in England. Participation remained entirely voluntary and by self-selection with informed consent throughout. Ethical approval for the research was obtained in accordance with institutional policy informed by British Educational Research Association guidelines (BERA, 2011). While the BPS-UKHE was developed and validated with final year Education Studies students as part of the same project and at the same institution as the work undertaken here, and presented as a unitary or multidimensional construct with full-scale (α=0.884; 0.889 here), 5-factor (α=0.851-0.625) and 3-factor (α=0.852-0.751) ‘short-form’ solutions (Authors, 2016a), the ASSIST questionnaire was used with this sample group for the first time and interrogated using Principal Component Analysis (PCA) with oblique (oblimin) rotation (Field, 2013). Considering Kaiser’s criterion (0.832), Bartlett’s sphericity (א2=1271.6, df=78, p<.001), eigenvalues (greater than 1) and the scree plot, a three factor structure (replicating the deep, strategic and surface scales) was accepted (62.7% of the variance observed). Factor loadings, internal reliabilities (Cronbach’s alpha) and other relevant statistics are provided as shown (Table 2). Overall outcomes compare favourably with other studies undertaken in a similar manner and with similar assumptions providing continuity with the wider body of research literature reviewed earlier.

*Data collection and analysis*

380 initial survey instruments including the BPS-UKHE questionnaire were distributed *in situ* during whole-year lectures attached to an educational research methods module. As part of the initial survey, information was also collected about how much of the time specific methods of course delivery respondents found interesting or engaging, why some methods were favoured over others, and what coping strategies were adopted when actually bored. 380 ASSIST questionnaires were also distributed with others in group seminars over subsequent weeks. Overall, 309 survey instruments and 248 ASSIST questionnaires were completed and returned (response rates of 81.3% and 65.3% respectively) resulting in a subsample of 224 usable items against which degree outcomes could also be matched (58.9% of the students available). Quantitative data handling was carried out using SPSS (version 22) adopting parametric as well as non-parametric statistical tests including Bonferroni corrections and effect sizes where appropriate (Field, 2013). Presenting with complete data sets and particularly high or low boredom proneness scores in order to help ensure sufficient differentiation in response (see next section), the ten respondents available and subsequently invited for interview included:

* Hannah, Heather, Harriet, Holly, Harry and Howie (four female and two male students with pseudonyms reflecting high BPS-UKHE scores e.g. 88 to 99);
* Lisa, Laura, Liam and Luke (two female and two male students with pseudonyms reflecting low BPS-UKHE scores e.g. 50 to 53).

The interviews themselves were conducted in a relaxed manner in private to ensure a free and ‘interactional exchange of dialogue’ (Mason, 2002: 62). While semi-structured in nature, recorded, and lasting up to one hour in duration, each interview remained sufficiently flexible for the discussion to ‘roam’ as appropriate (Powney and Watts, 1987; Fontana and Frey, 2000; Schostack, 2006). Probing the motives, intentions, processes and adaptations associated with studying to learn, opening questions included:

* As you approach the end of your degree, can you remember what it was that initially attracted you to education in particular?
* Do you ever find yourself actually getting bored in a lecture/seminar/what do you tend to do as a result?
* How do you go about studying/preparing for and writing your assignments?
* What keeps you going during the completion of an assignment?
* Do you find writing your assignments generally interesting/boring?
* What do you do with the assignment feedback you receive/how does it help when looking ahead to the next one?

Transcripts from audio-recordings were subsequently shared and analysed manually and conventionally by way of content analysis to identify emergent categories, themes and other matters of interest (Saldaña, 2013; Miles et al., 2014).

**Presentation of findings**

*Respondent characteristics*

Of the 224 respondents involved, 57 (25.4%) were male and 167 (74.6%) were female, figures typical of the degree programme as a whole. At the time of questionnaire distribution, ages ranged from 20 to over 40 with an estimated sample mean of 24.3 years. Used in full-scale form, the BPS-UKHE questionnaire measures academic trait boredom as determined by the frequency with which certain boredom precursors or antecedents reflected in the questionnaire items themselves are reported. Following reverse-item transformations, BPS-UKHE scores ranged from 41 to 122 (maximum possible range 28 to 140). These were spread around a mean of 71.9 (SD=13.37) and normally distributed (skewness=0.321, kurtosis=0.158). In the first part of our exploration, and following Mann and Robinson (2009), three boredom proneness categories were established from a standard deviation split: low (mean score minus one standard deviation – included 37 respondents scoring 58 or less and measurably the least prone to academic boredom), intermediate (included 149 respondents scoring 59 to 85) and high (mean score plus one standard deviation – included 38 respondents scoring 86 or more and measurably the most prone to academic boredom). These three categories helped identify and select candidates for interview and formed the basic units of all initial analyses. While fully cognisant of the various positions surrounding the categorisation of continuous variables in such a manner (e.g. MacCallum et al, 2002), particularly among psychologists, we have acted here, and for the more illustrative purposes of this work, in accordance with the elements of good practice presented by DeCoster et al. (2011). In the second part of our exploration, BPS-UKHE and ASSIST scores were ‘combined’ for the purposes of cluster and regression analysis allowing for a more rigorous and robust interpretation of relationships and degree outcome in particular.

*Initial course motivation*

The combined honours Education Studies programme at this particular university was a popular choice among students, offering a strong exit route to various teacher training courses upon completion of the degree. This was evident at interview but for different and sometimes personal reasons, with drivers ranging from the more intrinsic to the more extrinsic:

*‘I was the first person to come to uni’ out of my family … Obviously I wanted a degree at the end of it. I think I wanted to prove to myself that I could do this because I was the first one … I also wanted to teach and make new friends.’* (Lisa)

*‘Because I knew I wanted to be a teacher, always have done, and had to have a degree basically … Just knowing that to get this degree I’m another step closer to being what I want to be … that’s what keeps me going’* (Holly)

For some, initial course motivation was clearly influenced by several competing or complementary factors acting together at the same time. While course motivation can and does change over a three-year degree programme, it can also set the tone for how individuals interact with the teaching-learning environment.

*Interactions with the teaching-learning environment*

Interactions with the teaching-learning environment are considered here with reference to the different methods of course delivery available and the extent to which these maintained interest or engagement (e.g. traditional whole-year lectures, interactive whole-year lectures, group seminars, individual tutorials, specialised practical input and the online materials posted on Blackboard - the institution’s virtual learning environment). Traditional lectures with a perceived excess and inappropriate use of PowerPoint attracted particular criticism at interview while contributing most to the actual onset of boredom itself:

*‘I like PowerPoints but I don’t like them just delivering a PowerPoint I could have just read … I don’t think lectures take me out of my comfort zone but sometimes I go out of my listening zone … I think that’s when I get bored … So it’s not that I get bored a lot … I just lose my concentration.’* (Lisa)

Other contributing factors included the personal attributes and qualities of the lecturer, coherency and pace, the physical environment of the lecture theatre itself and the size of the audience and behaviour of other students. In more detail, only 97 (43.3%) respondents reported being interested or engaged in traditional lectures most if not all of the time. More importantly, perhaps, and of the 127 (56.7%) interested or engaged less frequently, 27 were particularly prone to boredom (71.1% of the high category), 86 less so (57.7% of the intermediate category) and 14 least of all (37.8% of the low category), a significant difference across the method overall and repeated frequently throughout the study (Kruskal-Wallis א2=18.689, p<.001). By way of contrast, 147 (65.6%) respondents reported being interested or engaged in group seminars most if not all of the time. Of the other 77 (34.4%), 22 were particularly prone to boredom (57.9% of the high category), 51 less so (34.2% of the intermediate category) and only 4 least of all (10.8% of the low category). As well as affecting a greater proportion of those more prone to boredom than others, the ability to re-engage during traditional lectures was notably different between groups:

*‘My mind wanders sometimes but I manage to refocus … I’m one of those people who can, even if I’m not directly listening … but I don’t know why, I just seem to be able to do it.’* (Liam)

*‘I’m not taking anything in when I’m getting bored … I doodle or clock watch … or switch off … it stops me falling asleep … and then it’s hard to get back into it again … so I’m sort of walking out knowing the same as what I did when I walked in … It sort of makes me feel like it’s my fault, but if it doesn’t interest me I get bored, there’s nothing I can do.’* (Heather)

The onset and influence of academic boredom at the point of course delivery was far from trivial and not to be underestimated.

*Approaches to learning*

Scale and subscale statistics associated with the ASSIST questionnaire are summarised as shown (Table 2) with the numerical data also represented more visually for ease of interpretation and comparison (Figure 1).

* Deep

Deep scale items consider interest in academic ideas, how ideas relate to one another and stimulate thought, the nature of evidence and how it is used, and the desire to find meaning and understand. Full-scale scores ranged from 7.0 to 20.0 (maximum possible range 4.0 to 20.0). These were normally distributed, spread around a mean of 14.64 and correlated negatively with boredom proneness as anticipated. Split by boredom proneness category, mean scores varied moderately and significantly from 16.07 in low to 13.53 in high (ANOVA F=15.399, df=2,221, p<.001; ɳ2=.122; greatest contrast between categories r=.505).

Mean values across the four deep subscales indicated little variation from ‘interest in ideas’ to ‘seeking meaning’. Their relationship with boredom proneness was, however, readily apparent in the divergence or ‘distances’ observed between categories which, with the exception of ‘use of evidence’, were all statistically significant (Figure 1). For ‘interest in ideas’ in particular, which also exhibited the highest subscale-boredom correlation, this was also reflected in the individual subscale items themselves. In terms of Item 52, for example, ‘I sometimes get ‘hooked’ on academic topics and I feel I would like to keep on studying them’, 129 (55.4%) respondents agreed at least somewhat or more. Of the other 95 (42.4%) who remained uncertain or did not, 25 were particularly prone to boredom (65.8% of the high category), 63 less so (42.3% of the intermediate category) and 7 least of all (18.9% of the low category), a significant difference across the item overall (Kruskal-Wallis א2=19.344, p<.001). This was also generally supported at interview:

*‘I like learning about anything, this is one of the reasons why I’m so passionate to do [a] master’s and … doctorate, I just, I wanna carry on learning, I mean, I’ll be sad to see university go.’* (Liam)

**[Insert Table 2 as close to here as possible.]**

* Strategic

Strategic scale items consider the organisation and effort associated with studying, planning and preparing for assignments, considering assessment requirements, checking and proofreading work, learning from feedback, time management and achievement motivation. Full-scale scores ranged from 7.0 to 19.6 (maximum possible range 4.0 to 20.0). These were normally distributed, spread around a mean of 15.04 and also correlated negatively with boredom proneness as anticipated. Split by boredom proneness category, mean scores also varied moderately and significantly from 16.79 in low to 13.30 in high (ANOVA F=125.950, df=2,221, p<.001; ɳ2=.190; greatest contrast between categories r=.608).

Mean values across the five strategic subscales varied slightly from ‘monitoring effectiveness’ to ‘time management’. Their relationship with boredom proneness was, however, also readily apparent in the divergence or ‘distances’ observed between categories which, with the exception of ‘alertness to assessment demands’, were statistically significant (Figure 1). For ‘organised study’, ‘time management’ and ‘achievement motivation’ in particular, which also exhibited the highest subscale-boredom correlations, this too was reflected in the individual subscale items themselves. In terms of Item 24, for example, ‘I feel that I am getting on well and this helps me to put in more effort’, 135 (60.3%) respondents agreed at least somewhat or more. Of the other 89 (39.7%) who remained uncertain or did not, 26 were particularly prone to boredom (68.4% of the high category), 58 less so (38.9% of the intermediate category) and only 5 least of all (13.5% of the low category), a significant difference across the item overall (Kruskal-Wallis א2=28.428, p<.001). The qualitative differences between groups across the subscales were also more apparent at interview and often blended with surface responses:

*‘In the first year I found it really straight forward. But when I realised the work I was doing actually meant something to my degree I started to get a bit scared about that … I want to get a better grade and I always aim to get a two-one [2:1] … I always want to better myself.’* (Lisa)

*‘I start off reading the assignment brief in detail … the word limit … what’s expected of me, the grade boundary I aim for, the key features used … I do a plan … I kind of work as a whole, but I’ve got to work linearly … I worry I’m not on the right lines. I just like to know what I’ve got to do.’* (Harriet)

**[Insert Figure 1 as close to here as possible.]**

* Surface

Surface scale items consider the impact of feeling worried, overwhelmed or panicked, the desire for clarity particularly over assessment requirements, the breadth of study and what needs to be understood or committed to memory and the point of being at university at all. Full-scale scores ranged from 4.8 to 19.0 (maximum possible range 4.0 to 20.0). These were normally distributed, spread around a mean of 11.94 and correlated positively rather than negatively with boredom proneness as anticipated. Split by boredom proneness category, mean scores varied more markedly and significantly from 9.95 in low to 13.76 in high (ANOVA F=39.400, df=2,221, p<.001; ɳ2=.263; greatest contrast between categories r=.705).

On this occasion, mean values across the four surface subscales varied widely from ‘fear of failure’ to ‘lack of purpose’. In contrast with the deep and strategic subscales presented, surface profiles split by boredom proneness category were completely transposed (Figure 1). With the exception of ‘fear of failure’, all were statistically significant. For ‘syllabus boundedness’, ‘unrelated memorising’ and ‘lack of purpose’ in particular, which also exhibited the highest subscale-boredom correlations, this too was reflected in the individual subscale items themselves. In terms of Item 3, for example, ‘Often I find myself wondering whether the work I am doing here is really worthwhile’, 118 (52.7%) respondents actually agreed or remained uncertain. Of those, 35 were particularly prone to boredom (92.1% of the high category), 74 less so (49.7% of the intermediate category) and 9 least of all (24.3% of the low category), a significant difference across the item overall (Kruskal-Wallis א2=45.352, p<.001). At interview, surface responses were often blended with strategic and expressed more frequently among those more prone to academic boredom than others:

*‘[I had to] resit my second year, I’d like to forget that happened … I wasn’t ready for it at all … I don’t like work where there’s too much freedom [as I’m] worried if I don’t get what you’re after I’m going to fail it … I am worried about failing all the time … I think I just doubt myself too much.’* (Holly)

*‘I’m one of them who does like to have that pressure on me towards the last minute … and work hard then … [but] if I’m not interested I’ll be like “please get this module over and done with, I’ve had enough”.’* (Howie)

*Individual approaches profiles*

Instructive though it is to consider deep, strategic and surface approaches separately for the purposes of exploration and initial analysis, and to summarise and illustrate overall sample characteristics in the broadest of detail, individuals are not defined by any one approach alone. To emphasise the importance of this more fully, extended and annotated interview transcripts are presented from Luke and Hannah (Table 3). With no suggestion of any gendered association (they simply provided the clearest examples and contrasts available), these are considered side by side and by areas of particular interest in order for direct comparisons to be made. At the point of interview, Luke presented with a BPS-UKHE score of 53 (low). His deep, strategic and surface ASSIST scores were 18.3, 15.4 and only 8.5 respectively. Hannah, on the other hand, presented with a BPS-UKHE score of 88 (high). Her deep, strategic and surface ASSIST scores were 15.5, 14.4 and 15.5 respectively. Not only did Luke and Hannah differ markedly in terms of their scores on both instruments, the qualitative differences between them at interview were also striking. Following interview, Luke went on to achieve an overall final degree mark of 67% and was awarded an upper second class honours degree (2:1). Hannah went on to achieve an overall final degree mark of 49% and was awarded a third class honours degree (3).

**[Insert Table 3 as close to here as possible.]**

*Student attainment and final year degree outcome*

Final degree marks from all 224 respondents ranged from 38% to 80%. These were spread around a mean of 60.2% (SD=7.07%) and normally distributed (skewness=-0.144, kurtosis=-0.097). Significant correlations between academic boredom, approaches to learning and final year degree outcome as a single and summative statement of overall academic performance are presented as shown (Table 4), the directions of correlation as anticipated.

**[Insert Table 4 as close to here as possible.]**

With both academic boredom and approaches to learning associated in the ways illustrated and exemplified, and known to exert some influence over academic performance and degree outcome, the second part of our exploration ‘combines’ BPS-UKHE and ASSIST scores in a hierarchical cluster analysis of the data (Ward’s method: involving the squared Euclidean distance between clusters and the standardisation of variables to z-scores). After considering all possible alternatives, a five-cluster solution in which the data could be sensibly and meaningfully grouped according to similar structural relations were identified: C1 (37 respondents, 16.5%), C2 (33 respondents,14.7%), C3 (55 respondents, 24.6%), C4 (44 respondents, 19.6%) and C5 (55 respondents, 24.6%). Using their original questionnaire scales for ease of interpretation and comparison, these are presented as shown (Figure 2). Offering considerable statistical and practical advantages over a simple standard deviation split (though closely aligned in this instance), degree outcomes varied across the five clusters from a mean of 64.6% (C1) to 56.4% (C5), an important and significant 8.2 percentage point difference (ANOVA F=13.335, df=4,219, p<.001; ɳ2=.196; greatest contrast between clusters r=.556). As informed by institutional regulations, this difference was observed more readily in degree classification with, for example, 32 of the 37 respondents in C1 (86.5%) achieving first and upper second class honours awards compared with only 20 of the 55 (36.4%) in C5 (significant across the clusters as a whole: א2=33.283, df=4, p<.001; V=0.385). In more detail, those respondents in C1 achieved between them nine ‘firsts’ compared to only one in C5, and no ‘thirds’ compared to seven The cluster analysis confirms and refines the relationships observed earlier and in the correlation matrix but offers a more holistic representation of the differences observed between variable groups.

**[Insert Figure 2 as close to here as possible.]**

Determined largely by way of written assignments and presentations attached to twelve individual modules taken over two years, often requiring sustained levels of interest and engagement over sometimes lengthy periods of time to complete, the influence of both academic boredom and approaches to learning was certainly a contributing factor:

*‘Most of them I find quite interesting. I find it quite tedious towards the end … I think because I’ve been at it so long and you just want to be finished.’* (Laura)

*‘Boring … I put them off as long as I can ’cause … it’s just work and no one likes doing work … I think there comes a time when you’re just like, “oh, as long as it doesn’t fail it’s okay”.’* (Harry)

For some, however, this was clearly assignment-specific:

*‘I think it depends on the topic. Like my dissertation [an independent research project]. I loved writing it because it was something I picked … I do quite like sitting and typing away, I just get carried away with my thoughts … and then I feel I’m being productive.’* (Holly)

Luke and Hannah’s extended interview transcripts were also particularly instructive (see previous section). Despite some variation, those respondents exhibiting little propensity towards academic boredom and assigned to C1 and C2, including Luke, also exhibited overall approaches profiles with elevated deep and strategic scores (particularly the latter in some instances) and relatively depressed surface scores, a revision to and extension of what constitutes ‘more effective learners’. Conversely, those respondents exhibiting a greater propensity towards academic boredom and assigned to C3, C4 and C, including Hannah, exhibited overall approaches profiles with relatively depressed deep and strategic scores and/or relatively elevated surface scores of a sometimes equivalent or leading nature, a similar revision to and extension of what constitutes ‘less effective learners’.

Finally, a series of simple regression analyses using BPS-UKHE and ASSIST scores as predictors of final year degree outcome were also undertaken. Considered individually, boredom proneness and surface scales predicted negatively, contributing to the achievement of lower grades as anticipated. These accounted for 13.9% (ß=-.372, t=-5.977, p<.001) and 5.3% (ß=-.231, t=-3.532, p<.01) of the overall variance observed respectively. Deep and strategic scales predicted positively, contributing to the achievement of higher grades as anticipated. These accounted for 9.0% (ß=.301, t=4.700, p<.001) and 16.1% (ß=.402, t=6.534, p<.001) of the overall variance observed respectively. Modelling all four scales together in a hierarchical regression accounted for 20.4% of the overall variance observed but with only BPS-UKHE and strategic scores appearing significant. Despite the clear associations highlighted throughout, however, the exact nature of causality remains uncertain, with valid suggestions for the variables interacting in different directions.

**Discussion**

*Summaries and scenarios*

In the first part of this mixed-methods study of 224 final-year Education Studies students at a single university in England, the influence of academic boredom was particularly evident at the point of course delivery, with traditional lectures involving a perceived excess and inappropriate use of PowerPoint alongside other factors promoting generally lower levels of interest and engagement than, for example, seminars; with a greater proportion of those more prone to academic boredom than others among the most adversely affected. As evidenced at interview, and in accordance with Control-Value Theory (Pekrun, 2000, 2006), for many of those respondents perhaps feeling over- or under-challenged in particular, lower levels of arousal and attention resulted in a loss of concentration and focus. In such situations, with time also dragging by, and their minds now wandering in the confining environment of the lecture theatre, the search for meaningful things to do to relieve their growing tedium and monotony resulted in far from optimal conditions for learning and the actual onset of academic boredom itself. Coping strategies were many and varied. Increasingly state-oriented rather than goal-oriented, and with a sense of ‘disordered agency’, some respondents were able to self-regulate and snap out of their boredom with ease; others, it would seem, were far less fortunate, simply ‘switching off’ or focusing more on mood and mood-monitoring than attempting to re-engage (Eastwood et al., 2012). From within the typology of academic state boredom presented by Goetz et al. (2014), such ‘calibrating’ and ‘searching boredom’ is described as a relatively common but bearable condition. In some instances, however, academic boredom resulted in heightened arousal leading to frustration and a sense of hopelessness (e.g. a waste of time and effort). Despite differences in cultural context and specific detail (Tze et al., 2013), the findings presented here are broadly consistent with those reported from other countries around the world by Pekrun et al. (2002, 2009, 2010), Acee et al. (2010), Goetz et al. (2010) and Tze et al. (2014, 2016).

Beyond the lecture theatre, and also in accordance with Control-Value Theory, academic boredom was a factor associated with how respondents approached their work including the assignments used for assessment purposes. Those considered more prone to academic boredom than others also displayed the deep, strategic and surface profiles more common among ‘less effective learners’. This too was evident at interview, and particularly clear in the extended transcripts from Luke and Hannah (Table 3). While broadly comparable in terms of their use of evidence, alertness to assessment demands and fear of failure (at least statistically), differences were most apparent in respondents’ interest in ideas and what they felt they had to do or memorise to ‘get by’ and pass, perhaps betraying something of their personal epistemologies and knowledge conceptions as well as personalities (Diseth, 2013; Karagiannopoulou and Entwistle, 2013). Equally importantly, differences were also reflected in their ability to organise resources and manage time, to monitor performance, their achievement motivation and their overall sense of purpose. Within the teaching-learning environment of the university and beyond, academic boredom was highly situated temporally as well as spatially, and course, task, study and assignment-related. Revealed in the second part of this study, and for those more prone to academic boredom than others displaying the study habits, skills and approaches to learning of ‘less effective learners’, all of this translated into an overall reduction in average final degree mark and fewer ‘good’ degree awards (see also Lizzio et al., 2002; Diseth, 2002, 2007; Román et al., 2008; Campbell and Cabrera, 2014; Pekrun et al., 2014). As part of a greater emotional dynamic and evolving network of other contributing factors, we also know from our earlier work that those more prone to academic boredom than others consider their attendance as good rather than excellent and devote significantly less time to self-study (Authors, 2016b).

*Intervention and prevention*

Based on the evidence presented here, and with reference to the research literature, boredom mitigation at university might begin by placing students at the heart of a transformational process which considers not only how courses are designed and delivered but how teaching for learning and assessment acknowledges its debilitating effects (e.g. Illeris, 2003; Ramsden, 2003; Entwistle, 2009; Biggs and Tang, 2011). With this in mind, why different forms of academic practice and interaction at university are adopted over others could certainly be more carefully articulated at induction when the process of academic socialisation for most students begins (Hughes and Smail, 2014). This might include, for example, the nature and purpose of lectures and seminars and what these set out to achieve. The emotional demands of transitioning into and throughout higher education, together with study skills and learning development, might also be addressed at much the same time (Christie et al., 2008; Kahu et al., 2015). Given the apparent lack of immunity of any student to the effects of academic boredom coupled with weaker approaches to learning, albeit affecting some more frequently and more intensely than others, lecturers themselves need to remain mindful of the importance of when and how to introduce and sequence new content, particularly in the lecture theatre, while at the same time considering more innovative and creative methods of instruction involving the use PowerPoint as a tool for disseminating information (e.g. avoiding ‘dictation’). Lecturers might also remain mindful of the array of personal and environmental factors which affect the motives, intentions and adaptations of students towards specific course, task and assessment requirements (Gijbels et al., 2005; Baeten et al., 2010). In terms of assessment, students might certainly benefit from being given more options to choose from and greater autonomy over what to do and how to do it, with support, while avoiding assessment overlap and overload, thereby providing opportunity for feedback to ‘feed forward’ (Scouller, 1998; Minbashian et al., 2004; Hamm and Robertson, 2010).

At the same time, students need to become more involved in their own courses and take more responsibility for their own learning, their meta-cognitive awareness extending to identifying and responding to academic boredom and learning needs effectively. This could be helped by embedding study skills directly into courses while learning developers could be called upon to play a more front-line role in assisting with attribution retraining, goal setting and helping students to focus on the benefits of positive emotions, thereby improving resiliency and building confidence to help reduce the stress and fatigue which may damage self-esteem or self-worth (Pekrun et al., 2002; Vodanovich, 2003b; Ruthig et al., 2004, 2008; Goetz et al., 2010; Villavicencio and Bernardo, 2013). Students for whom academic boredom proves particularly troublesome and finding themselves ‘at risk’ of falling behind or terminating their studies altogether might certainly need the highly specialised help that many pastoral tutors alone may feel unqualified to provide (Tait and Entwistle, 1996). Students themselves are not always best placed to recognise their own emotions, to know of their effects, or what they mean and how to self-regulate. Many students present at counselling services with anxiety or depression, for example, but few attend because of academic boredom which can, in extreme cases, become chronic (Authors, 2016c). While the suggestions for intervention and prevention presented here may already be well established within the repertoires of many academic colleagues, some of this will make uncomfortable reading for others, challenging cultural traditions and pedagogical norms (Ashwin, 2015).

*Limitations*

Despite the growing number of international studies, theoretical advances and methodological developments in the field, the emergence of academic boredom in the UK positions our own work here as largely exploratory and inductive rather than deductive and explanatory in nature. While making no claim to fully capture the heterogeneity of higher education provision, the student population, or the complexity of human behaviour associated with studying, learning and being a student, it does, nevertheless, provide a valuable baseline against which future findings might be considered and compared. This should, however, be undertaken with care. Quantitative data, mainly derived from the BPS-UKHE and ASSIST questionnaires, with their own limitations and shortcomings, relied upon self-reporting from self-selecting students in the main, assuming a common reception and understanding of statements and terms. Despite a mixed-methods design, the small number of interviews conducted provided only limited opportunities for the independent verification of information relying instead on the retrospective attribution of meaning. The influence of academic boredom and approaches to learning on overall performance used only final-year degree outcome as a single and summative measure and statement of achievement. Pointing towards future research endeavours, longitudinal, cross-sectional and experimental studies would allow the anticipatory emotions students experience ahead of specific learning events and the resultant emotions which follow to be brought into sharper focus which, with a detailed knowledge of student study habits, skills and approaches, will illuminate and highlight more of the probabilistic nature of these and other variables as causal agents (e.g. influencing the nature and direction of performance indicators and achievement directly, indirectly, reciprocally or in a mutually reinforcing manner).

**Conclusions**

Given the emergence of academic boredom onto the international stage only recently, the work presented here arguably makes an important empirical and methodological contribution to a surprisingly neglected and underdeveloped field of higher education research in the UK. It also resonates strongly with and addresses certain elements of the UK student engagement agenda (Trowler, 2010). With specific reference to achievement-related emotions like boredom, for example, Pekrun (2006: 333-334) offers the following insight:

*‘Emotions are of primary educational importance for two reasons. First … emotions can affect students’ interest, engagement, achievement and personality development, as well as the social climate in classrooms and educational institutions … Second … emotions are central to psychological health and well-being, implying that they should be regarded as important educational outcomes in themselves, independent of their functional relevance.’*

While acknowledging the limitations of our work and its interpretation, evidence in both the quantitative and qualitative data presented extends our knowledge and understanding not only of where, when, how and why academic boredom arises but something of its influence and consequences, providing valuable clues for how to mitigate against some of its more adverse and damaging effects. In terms of the various associations, correlations, patterns, clusters and trends noted here, academic boredom and the approaches students adopt when studying and learning offer considerable diagnostic and predictive potential when considered individually or used in combination. How students engage emotionally with the teaching-learning environment at university and beyond certainly deserves more attention than it currently receives. With many of the building blocks surrounding the study of academic boredom more firmly in place than ever before, we would certainly anticipate future research raising and testing some of the many hypotheses yet to be identified from its established theoretical framework.

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**Appendix 1: Boredom survey instrument with BPS-UKHE**

1. ***BPS-UKHE questionnaire***

Scale: A – Always (Score 5), B – Usually (Score 4), C – Occasionally (Score 3), D – Rarely (Score 2), E – Never (Score 1)

|  |
| --- |
| 1. At university, I find it easy to concentrate on my work and other activities.\* |
| 2. When I am working at university, I find myself worrying about other things. |
| 3. Time seems to pass by slowly for me at university. |
| 4. At university, I find myself at a ‘loose end’ not knowing what to do. |
| 5. At university, I find myself trapped in situations where I have to do meaningless things. |
| 6. Having to read someone else’s course work or watch their presentation and listen to what they  have to say bores me tremendously. |
| 7. At university, I have no shortage of projects in mind and things to do.\* |
| 8. I find it easy to entertain and motivate myself at university.\* |
| 9. At university, many things I have to do are repetitive and monotonous. |
| 10. At university, it takes more stimulation to get me going than most people. |
| 11. At university, I get a kick out of most things I do.\* |
| 12. I find it difficult to get excited about my work at university. |
| 13. In any situation at university, I can find something to do or see to keep me interested.\* |
| 14. At university, I find myself just sitting around doing nothing. |
| 15. At university, I am good at waiting patiently.\* |
| 16. At university, I often find myself with time on my hands and nothing to do. |
| 17. In situations where I have to wait I get very restless. |
| 18. I often wake up with a new idea for work and other activities at university.\* |
| 19. At university, it is very hard for me to find a task that is exciting enough. |
| 20. I would like more challenging things to do at university. |
| 21. At university, I feel that I am working below my ability and not stretched enough. |
| 22. People at university would say that I am a creative or imaginative person.\* |
| 23. I have so many interests at university I don’t have time to do everything.\* |
| 24. Among my friends at university, I am the one who keeps doing something the longest.\* |
| 25. Unless I am doing something exciting at university I feel half dead and dull. |
| 26. It takes a lot of change and variety at university to keep me really happy. |
| 27. At university it seems that we do the same things all the time - it’s getting old. |
| 28. I’ve found everything about university monotonous and tiresome. |

Source: Authors (2015) after the BPS of Farmer and Sundberg (1986).

Full-scale scoring procedure: transform reverse score items (\*) before adding all 28 individual item scores together. 26 item, 5-factor (tedium, time, challenge, concentration and patience) and 18 item, 3-factor, ‘short-form’ (tedium, time and concentration) solutions of the BPS-UKHE are also available.

1. ***How much of the time does each different method of course delivery interest or engage you?***

* traditional whole year lectures, interactive whole-year lectures, group seminars, individual tutorials, specialised practical input, online materials via the VLE (Blackboard)

Scale: A – All of the time (Score 5), B – Most of the time (Score 4), C – About half of the time

(Score 3), D – Some of the time (Score 2), E – Never (Score 1)

1. ***List up to three factors which make whole year lectures/smaller group sessions***

***particularly interesting or engaging/dull or boring.***

1. ***If you find whole year lectures/smaller group sessions particularly dull or boring what do you tend to do most?***

* daydream, switch off, doodle over handouts, talk to the person next to you, text, leave at the break, other (specify)

**Appendix 2: The ASSIST questionnaire (Part B)**

Scale: A – Agree (Score 5), B – Agree somewhat (Score 4), C – Not sure (Score 3), D – Disagree

somewhat (Score 2), E – Disagree (Score 1)

|  |
| --- |
| 1. I manage to find conditions for studying which allow me to get on with my work easier. |
| 2. When working on an assignment, I’m keeping in mind how best to impress the marker. |
| 3. Often I find myself wondering whether the work I am doing here is really worthwhile. |
| 4. I usually set out to understand for myself the meaning of what we have to learn. |
| 5. I organise my study time carefully to make the best use of it. |
| 6. I find I have to concentrate on just memorising a good deal of what I have to learn. |
| 7. I go over the work I’ve done carefully to check the reasoning and that it makes sense. |
| 8. Often I feel I’m drowning in the sheer amount of material we have to cope with. |
| 9. I look at the evidence carefully and try to reach my own conclusion about what I’m studying. |
| 10. It’s important for me to feel that I’m doing as well as I really can on this course. |
| 11. I try to relate ideas I come across to those in other topics whenever possible. |
| 12. I tend to read very little beyond what is actually required to pass. |
| 13. Regularly I find myself thinking about ideas from lectures when I’m doing other things. |
| 14. I think I’m quite systematic and organised when it comes to revising for assignments and exams. |
| 15. I look carefully at tutors’ comments on course work to see how to get higher marks next time. |
| 16. There’s not much of the work here that I find interesting. |
| 17. When I read an article or book I try to find out for myself exactly what the author means. |
| 18. I’m pretty good at getting down to work whenever I need to. |
| 19. Much of what I’m studying makes little sense. It’s like unrelated bits and pieces. |
| 20. I think about what I want to get out of this course to keep my studying well focused. |
| 21. When I’m working on a new topic I try to see in my own mind how all the ideas fit together. |
| 22. I often worry about whether I’ll ever be able to cope with the work properly. |
| 23. Often I find myself questioning things I hear in lectures and seminars or read in books. |
| 24. I feel that I am getting on well and this helps me to put in more effort. |
| 25. I concentrate on learning just those bits of information I have to know to pass. |
| 26. I find that studying academic topics can be quite exciting at times. |
| 27. I’m good at following up some of the reading suggested by tutors. |
| 28. I keep in mind who is going to mark my work and what they’re likely to be looking for. |
| 29. When I look back I sometimes wonder why I ever decided to come here. |
| 30. When I am reading, I stop from time to time to reflect on what I am trying to learn from it. |
| 31. I work steadily through the semester rather than leave it all until the last minute. |
| 32. I’m not really sure what’s important in lectures and seminars so I try to get down all I can. |
| 33. Ideas in books and articles often set me off on long chains of thought of my own. |
| 34. Before starting work on an assignment or exam question I think first how best to tackle it. |
| 35. I often seem to panic if I get behind with my work. |
| 36. When I read, I examine the details carefully to see how they fit in with what’s being said. |
| 37. I put a lot of effort into studying because I’m determined to do well. |
| 38. I gear my studying closely to just what seems to be required for assignments and exams. |
| 39. Some of the ideas I come across on the course I find really gripping. |
| 40. I usually plan out my week’s work in advance, either on paper or in my head. |
| 41. I keep an eye open for what tutors seem to think is important and concentrate on that. |
| 42. I’m not really interested in this course at all, but I have to take it for other reasons. |
| 43. Before tackling a problem or assignment I first try to work out what lies behind it. |
| 44. I generally make good use of my time during the day. |
| 45. I often have trouble making sense of the things I have to remember. |
| 46. I like to play around with ideas of my own even if they don’t get me very far. |
| 47. When I finish a piece of work, I check it through to see if it really meets the requirements. |
| 48. Often I lie awake worrying about work I think I won’t be able to do. |
| 49. It’s important for me to be able to follow the argument, or to see the reason behind things. |
| 50. I don’t find it at all difficult to motivate myself. |
| 51. I like to be told precisely what to do in assignments. |
| 52. I sometimes get ‘hooked’ on academic topics and I feel I would like to keep on studying them. |

Source: Tait et al. (1998).

Deep approach subscales:

* Seeking meaning (Items 4, 17, 30, 43)
* Relating ideas (Items 11, 21, 33, 46)
* Use of evidence (Items 9, 23, 36, 49)
* Interest in ideas (Items 13, 26, 39, 52)

Strategic approach subscales:

* Organised studying (Items 1, 14, 27, 40)
* Time management (Items 5, 18, 31, 44)
* Alertness to assessment demands (Items 2, 15, 28, 41)
* Achievement motivation (Items 10, 24, 37, 50)
* Monitoring effectiveness (Items 7, 20, 34, 47)

Surface approach subscales:

* Lack of purpose (Items 3, 16, 29, 42)
* Unrelated memorising (Items 6, 19, 32, 45)
* Syllabus-boundedness (Items 12, 25, 38, 51)
* Fear of failure (Items 8, 22, 35, 48)

Scoring procedure: subscales - all relevant item-scores added together; scales - all relevant subscale scores added together then divide by the number of individual subscales to obtain a mean average.

|  |  |  |
| --- | --- | --- |
| **Deep** | **Strategic** | **Surface** |
| Basic intention to actively construct meaning and understanding for oneself:   * naturally motivated, interested and engaged * works beyond immediate requirements * questioning and reflective * able to relate ideas to previous knowledge and experience * looks for patterns and principles * sees structure and coherency * uses evidence and makes connections to inform work * explores reason, logic, argument and conclusions critically * learns by rote where appropriate * reflective | Basic intention to maximise effort to support learning and achievement:   * intrinsically and extrinsically motivated * systematic and self-evaluative * focused and determined * planned and organised * manages resources including time effectively * alert to academic environment and assessment demands * tasks enhance learning * monitors progress * thoughtful and thorough * metacognitively aware | Basic intention to cope with immediate task demands and course requirements:   * requires external stimulus for motivation * seeks breadth rather than depth * sees words and text rather than meaning * learns by rote and with difficulty * memorises unrelated bits of knowledge * reproduces quotes or examples * studies without reflection * failure to make spot relevance or make connections * often misses the point * misdirected or unproductive effort * feels under pressure and worries |

Table 1 General approach characteristics (after Marton and Säljö 1976a,b; Ramsden, 2003; Entwistle, 2009;

Biggs and Tang, 2011)

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | **Boredom proneness category*†*** | | |  | **Scale/subscale characteristics** | | | | |
| **Scale/subscale** | **Mean score**  **(SD)** | **Low**  **(SD)** | **Intermediate**  **(SD)** | **High**  **(SD)** |  | **Skewness** | **Kurtosis** | **Factor loading** | **Reliability**  **(α)** | **BPS-UKHE**  **correlation*‡*** |
| **Deep** | **14.64**  **(2.127** | **16.07**  **(1.825)** | **14.57**  **(1.897)** | **13.53\*\*\***  **(2.507)** |  | **-0.282** | **0.513** | **-** | **0.839** | **-.440\*\*** |
| Interest in ideas | 14.84  (2.872) | 16.73  (2.219) | 14.94  (2.521) | 12.63\*\*\*  (3.300) |  | -0.393 | 0.028 | .678 | 0.719 | -.512\*\* |
| Use of evidence | 14.83  (2.276) | 15.81  (2.039) | 14.75  (2.079) | 14.21ns  (2.915) |  | -0.271 | 0.593 | .880 | 0.549 | -.271\*\* |
| Relating ideas | 14.55  (2.649) | 15.95  (2.549) | 14.40  (2.541) | 13.82\*\*  (2.749) |  | -0.287 | -0.132 | .904 | 0.678 | -.274\*\* |
| Seeking meaning | 14.32  (2.527) | 15.78  (2.562) | 14.17  (2.318) | 13.45\*\*\*  (2.758) |  | -0.421 | 0.474 | .764 | 0.673 | -.367\*\* |
| **Strategic** | **15.04**  **(2.320)** | **16.79**  **(2.050)** | **15.04**  **(1.986)** | **13.30\*\*\***  **(2.531)** |  | **-0.493** | **0.512** | **-** | **0.851** | **-.517\*\*** |
| Monitoring effectiveness | 16.17  (2.529) | 17.73  (2.219) | 16.15  (2.283) | 14.74\*\*\*  (2.892) |  | -0.950 | 1.217 | .718 | 0.642 | -.379\*\* |
| Achievement motivation | 15.29  (2.670) | 17.41  (1.936) | 15.32  (2.346) | 13.11\*\*\*  (2.817) |  | -0.360 | -0.182 | .741 | 0.672 | -.546\*\* |
| Alertness to assessment  demands | 14.99  (2.574) | 15.78  (2.323) | 15.14  (2.450) | 13.61ns  (2.824) |  | -0.200 | -0.139 | .639 | 0.610 | -.259\*\* |
| Organised studying | 14.48  (3.050) | 16.32  (2.991) | 14.42  (2.749) | 12.92\*\*\*  (3.348) |  | -0.222 | -0.344 | .885 | 0.693 | -.415\*\* |
| Time management | 14.25  (3.673) | 16.70  (2.847) | 14.19  (3.354) | 12.13\*\*\*  (4.218) |  | -0.505 | -0.304 | .833 | 0.824 | -.447\*\* |
| **Surface** | **11.94**  **(2.157)** | **9.95**  **(1.813)** | **11.98**  **(1.817)** | **13.76\*\*\***  **(2.063)** |  | **-0.219** | **0.361** | **-** | **0.631** | **.511\*\*** |
| Fear of failure | 15.25  (3.660) | 13.86  (3.607) | 15.48  (3.582) | 15.74ns  (3.790) |  | -0.672 | -0.087 | .675 | 0.787 | .079ns |
| Syllabus boundedness | 12.67  (2.886) | 10.95  (3.153) | 12.79  (2.516) | 13.87\*\*\*  (3.273) |  | -0.079 | 0.123 | .645 | 0.628 | .345\*\* |
| Unrelated memorising | 11.67  (2.791) | 9.51  (2.534) | 11.82  (2.576) | 13.21\*\*\*  (2.642) |  | -0.160 | 0.310 | .775 | 0.602 | .382\*\* |
| Lack of purpose | 8.18  (3.110) | 5.49  (1.283) | 7.81  (2.398) | 12.24\*\*\*  (2.999) |  | 0.883 | 0.300 | .575 | 0.719 | .622\*\* |

Table 2 ASSIST statistics: subscales arranged in order of decreasing mean score (*†*ANOVA F and ***‡***Pearson’s r: ns=not

significant, \*p<.05, \*\*p<.01, \*\*\*p<.001; n=224)

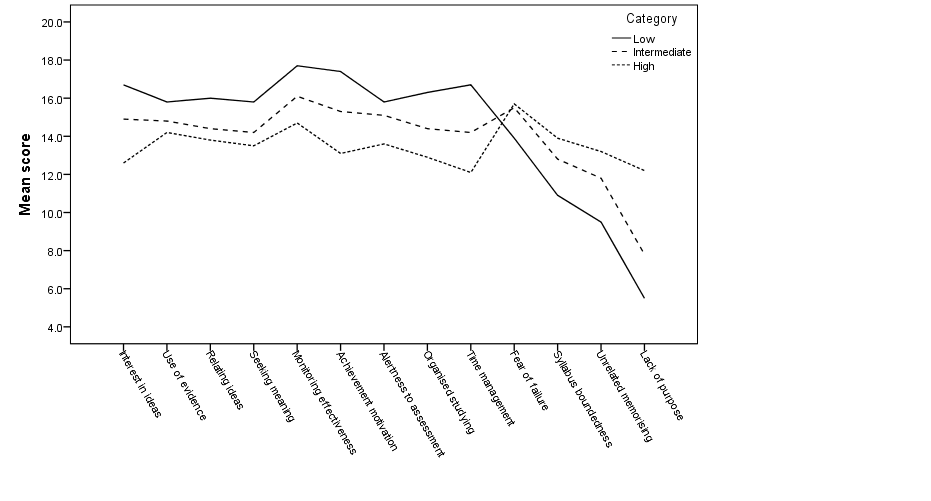
|  |  |  |
| --- | --- | --- |
| **Luke**  BPS-UKHE score 53 (low BPS-UKHE category, Cluster 1)  Approach scores: deep 18.3, strategic 15.4, surface 8.5  Degree outcome 67% (awarded 2:1) |  | **Hannah**  BPS-UKHE score 88 (high BPS-UKHE category, Cluster 4)  Approach scores: deep 15.5, strategic 14.4, surface 15.5  Degree outcome 49% (awarded 3) |
| *Motivation and general experience of university:*  *It was to complete a degree, just another tick box [sfc], but I never realised the tick box it would be … It’s been amazing to be honest … I’ve met so many people, university life has been great … I think the first year was hard, just understanding what I had to do, the way things worked [str]. But as you move into the course it’s more demanding … the thought you have to put into it, how you have to analyse things [dp]. Things aren’t black and white any more, things are shades of grey [dp].*  *On lectures and lecture boredom:*  *[Boredom] ‘A lecture should leave you asking questions of what you’ve been hearing, been listening to, and then want to go and find out something else about it … Some of the best lectures I’ve had here have been really inspirational [dp] … on the flip side of that, I’ve been in lectures that have just been dull as ditch water [sfc] … When you just sit there … thinking I could have read this in a book … I don’t need to know this [sfc], … I want to know the ideas behind it maybe, or what’s caused that thinking [dp].*  *On assignments and assignment boredom:*  *Generally, I get a big box full of reading. Then I’ll go through it highlighting the bits I think are good and then disregard everything else … I tend to get as much as I can then try and tie the themes together so I can synthesise it [dp] … structure the argument basically [dp] … I like to make sure … it’s coherent, lots of elements are there [dp] … then I’ll start … the introduction, the lit. review or start the methodology … I can add bits when I need or take bits away just to balance things … I’ve always had issues with punctuation and grammar … everything’s proof read … normally two or three drafts … [stg] I do look back on previous assignments to see what feedback I’ve had … I just try to build on what I’ve done before [stg] … Some of the feedback has been vague … I’d rather have feedback sheets with written feedback [not] boxes coloured in but no feedback underneath [stg] … I do most of my work between half-past eight and two in the morning generally[stg]. It’s the only time I’ve got so it has to be productive … you manage on hardly any sleep … I’ll try and get in a bit earlier or stay later and get to the library to pull up any resources I can get a hold of [stg]. [Boredom] It depends on the assignment. Generally, I really enjoy them, especially when I get into it [dp].*  *Intentionality and expectation:*  *Every piece of work is top quality, it has to be … I don’t do less than a two-one [2:1]. Say, for when I got fifty-five percent [55%], I was, like, “What’s going on here? [stg].” I don’t do less than a two-one [2:1], it’s not in my stratosphere [stg].* |  | *Motivation and general experience of university:*  *I think learning itself, further development of the subject, and also I wanted to do teaching, so it was an obvious route [dp]. I enjoy learning … I found it really hard this year and in the second year. Yeah … definitely challenged … Demanding, definitely … you have to be dedicated … I think the balance is quite hard to get right especially at first, but once you start getting it right, it just becomes routine, that you just get used to it [str].*  *On lectures and lecture boredom:*  *[Boredom] [W]hen lecturers have used a lot of PowerPoints and not really interacted with everyone … it becomes a bit monotonous and my brain switches off [sfc]. I don’t like … the lights off … that makes me more sleepy … The speed of the content … especially if it’s new … I get completely muddled … the rest of the lecture becomes a blur … I feel frustrated at myself because I feel like I should be concentrating but then I also feel, like, “Why am I here [sfc]?”*  *On assignments and assignment boredom:*  *With a specific focus I know what I need to do … and I don’t have to make a big decision. I know that sounds bad … but I think if you’re given so many options it becomes hard to decide [sfc] … I normally look at the assignment brief … I plan it out [stg] … I don’t do that as much as I probably could do to advantage, myself [stg] … I think I don’t allow myself enough time to probably look at it with fresh eyes and I think that’s a downfall that I’ve come to realise probably a bit too late [sfc] … I revise it but I have a habit of doing a draft and not being happy with it and completely changing it [stg] … I’m not very good with proof reading … I think that’s down to poor time management [sfc] … maybe I should focus on the actual quality of it [stg] … I think I get to a position where I know I need to do it, I haven’t got much time, so I cram [sfc]. [On feedback] I read it as soon as I get it back [stg] … I’m bad at focusing on the negative parts … and not looking at what is positive about it [sfc] … Sometimes with feedback … I’ve felt that it’s not helped progress … I find having a tutorial helping progress more than the feedback [stg]. [Boredom] I find [them] interesting at first [dp] but then it becomes more of a task and I find it boring [sfc].*  *Intentionality and expectation:*  *I think I want to do well, but I think it’s the confidence … especially if I’ve had a previous assignment that’s not had that much of a good mark [stg]… I think that sometimes it’s fear of doing badly [sfc], but a lot of the time I’m working till the deadline and I’m constantly thinking “I’ve got to get this in [sfc].”* |

Table 3 Annotated interview transcripts from Luke and Hannah comparing boredom, motivation, approaches to learning and

intentionality (dp=deep, stg=strategic, sfc=surface)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | BPS-UKHE | Deep | Strategic | Surface | Degree (%) |
| BPS-UKHE | - | -.440\*\* | -.517\*\* | .511\*\* | -.372\*\* |
| Deep |  | - | .523\*\* | -.236\*\* | .301\*\* |
| Strategic |  |  | - | -.287\*\* | .402\*\* |
| Surface |  |  |  | - | -.231\*\* |
| Degree (%) |  |  |  |  | - |

Table 4 Pearson correlation matrix (n=224; \*p<.05, \*\*p<.01)



(full-scale mean 11.94)

(full-scale mean 15.04)

(full-scale mean 14.64)

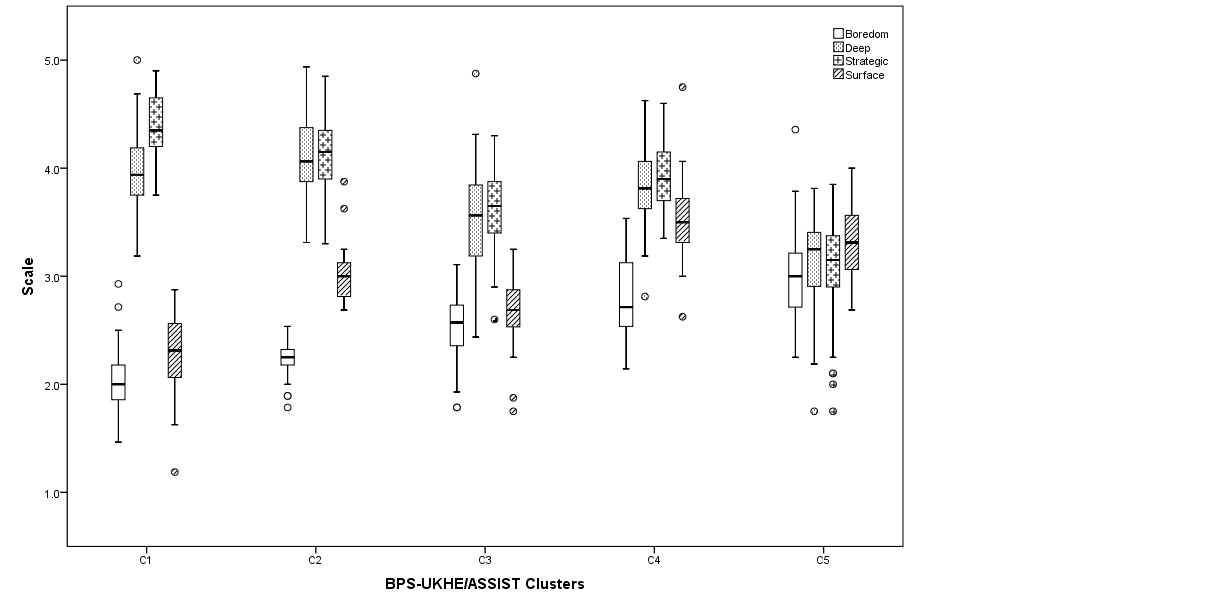
Deep

Surface

Strategic

Figure 1 ASSIST subscale profiles split by boredom proneness category: arranged in order of

decreasing mean score (n=224)



**Revised profiles of ‘more effective learners’ – little propensity towards academic boredom and surface learning (below average z-scores), deep and strategically prominent (above average z-scores), strategically led in some instances**

**Revised profiles of ‘less effective learners’ – greater propensity towards academic boredom and surface learning (above average z-scores), surface led in some instances, broadly equivalent or depressed deep and strategic scales (below average z-scores)**

**Mean z-scores:**

**bdm -1.186**

**dp 0.523**

**stg 1.075**

**sfc -1.328**

**Mean z-scores:**

**bdm 0.873**

**dp -0.945**

**stg -1.127**

**sfc 0.643**

**Medians:**

**bdm 3.00**

**dp 3.25**

**stg 3.15**

**sfc 3.31**

**Medians:**

**bdm 2.71**

**dp 3.81**

**stg 3.90**

**sfc 3.50**

**Medians:**

**bdm 2.57**

**dp 3.56**

**stg 3.65**

**sfc 2.69**

**Medians:**

**bdm 2.25**

**dp 4.06**

**stg 4.15**

**sfc 3.00**

**Lisa**

**Laura**

**Liam**

**Luke**

**Hannah**

**Heather**

**Harriett**

**Holly**

**Harry**

**Howie**

**Mean degree: 56.4%**

**Awards: 36.4% Iand 2:1**

**63.6% 2:2 and 3**

**Mean degree: 64.3%**

**Awards: 84.8% Iand 2:1**

**15.2% 2:2 only**

**Mean degree: 58.8%**

**Awards: 54.5% Iand 2:1**

**45.5% 2:2 and 3**

**Mean degree: 60.2%**

**Awards: 54.5% Iand 2:1**

**45.5% 2:2 and 3**

**Mean degree: 64.6%**

**Awards: 86.5% Iand 2:1**

**13.5% 2:2 only**

**Medians:**

**bdm 2.00**

**dp 3.94**

**stg 4.35**

**sfc 2.31**

Figure 2 Relationships between clusters C1 to C5 and final year degree outcome (n=224)