Eduscape: An Exploratory Analysis of the Physical Learning Environment

Background

Higher education has over the last 10 years increased its marketing effort, recognising a more competitive marketplace where tuition fees and global league tables have turned applicants into consumers (Harvey, 2003; Liao, 2008; Hunt-Grubbe, 2010) and where: "students have become more savvy consumers...they ask more of their universities, and it takes more marketing to satisfy them. They want an environment more like the "one-stop shopping" of the malls they frequent. More convenience. More interaction. Better amenities" (Coffey and Wood-Steed, 2001, pp 352).

In response to this changing philosophy has come an increase in building projects being implemented by universities over recent years and there has been a general increased interest in the physical aspects of higher education. The impact of the physical environment on the behaviour and effects on performance of people has been studied extensively in retail and service settings (Donovan and Rossiter, 1982; Donovan et al, 1994; Bittner, 1992), in the workplace and organisations (Elsbach and Pratt, 2007; Hua, Loftness, Kraut and Powell, 2010) and to a certain extent in schools (Ikpa, 1992; Durán-Narucki, 2008). However the impact of the physical environment on higher education or university students has received only scant and fragmented attention. Marketing has long recognised the physical environment as an effective tool incorporating it into retail development and services research (For example Martineau, 1958; Kotler, 1973; Donovan and Rossiter, 1982; Bittner, 1992; Foxall and Greenley, 1999; Turley and Milliman, 2000). However, to a large extent higher education establishments have focused on the central aspects of marketing (promotion, price, product and place) rather than aspects of the extended marketing mix including the focus here, the physical environment. This paper seeks therefore to test concepts developed in commercial and retail environments, with regards the physical environment, and apply these to higher education learning environments.

Based on an extensive literature review, prior research (Lewis, James and Reynolds, 2008) and incorporating aspects of Bittner’s servicescape model (1992) the following conceptual elements are proposed (see Figure 1). The conceptual Eduscape model utilises the ambient factors element from servicescape (aspects included were determined by earlier work), the emotional response element from Mehrabian and Russell (1974- also highlighted in servicescape) and a number of potential outcomes measures (dependant variables) including the traditionally used approach-avoidance measure.

Figure 1: Eduscape proposed conceptual model

General Ambient Factors and Layout and Design Factors: A number of ambient conditions are proposed as important and are included in the conceptualisation. The first of
these is general maintenance which literature suggests can affect the health of students, impede teaching, attendance, academic achievement and affects students behaviour (Rutter, 1979; Evans, 2006; Durán-Narucki, 2008; Jessop and Smith, 2008). Secondly temperature is included. High temperatures can increase violent behaviour, cause discomfort and can impair academic performance (Anderson and Anderson, 1999; Anderson, Anderson, Dorr, DeNeve and Flanagan, 2000; Evans, 2006). Thirdly light is included as an ambient factor. Lighting is important as if poor can cause discomfort and impair task performance (Winterbottom and Wilkins, 2009). Smell and aroma are also included as ambient factors based on previous explorations (Lewis, James and Reynolds, 2008). In terms of spatial layout and functionality two aspects were included. The first of these is general comfort such as how comfortable seats are, leg/arm room and desk space (Marans and Yan, 1989; BBC, 2007; Lewis, James and Reynolds, 2008). The second factor included is crowding/density which has been related to human well-being (Evans, 2006). Retail density has been studied in detail and has been shown to affect satisfaction and shopping experience (Machlet, Kellaris and Eroglu, 1994; Bechtel, 1997; Rompay, Galetzka, Pruyen, Moreno Garcia, 2008).

Emotional Response: The three emotional responses of pleasure, arousal and dominance, from the work of Mehrabian and Russell (1974) are included as emotional responses in the conceptual model. Pleasure-displeasure refers to the degree to which the person feels good, joyful, happy or satisfied in the situation; arousal-non-arousal refers to the degree which a person feels excited, stimulated, alert or active in the situation; and dominance-submissiveness refers to the extent to which the individual feels in control of, or free to act in, the situation. In both retail and educational settings little work has looked at the specific links between ambient factors and emotions. However, it appears obvious that students who report being comfortable or happy with the dimensions of their environment will display higher levels of pleasure. The effect of ambient factors on arousal is again under-researched within both the retail and educational literature. However, arousing environments are generally viewed positively- but some high arousal environments can be unpleasant (lots of stimulation, noise, confusion). Educators would generally wish for students to be excited and stimulated, but also relaxed and calm. In terms of the dominance aspect of emotion, Russell and Pratt (1980) suggested that evidence for dominance in many cases is not available (see also Yani-de-Soriano and Foxall, 2006) but it seems important to consider this aspect in educational settings where students are expected to listen, sit etc and therefore should feel at least a little dominated by the situation? It is also expected that the ambient conditions and design and functionality aspects will purposefully restrict the behaviour of the students. However students may also feel freer and less dominated if they are satisfied with their surroundings.

Outcomes: A number of studies call for links to learning outcomes/grades in educational environmental research. This is a difficult (Temple, 2008) objective and while this may be possible and ideal in a school setting it is likely that any one educational setting (a lecture room, tutorial room, library etc) may not have a great single effect on grades as university students will spread themselves thinly across different settings in any one week. Hence a range of behaviours, attitudes etc are utilised as outcome variables in the study. The first of these is approach-avoidance behaviours and is often used in studying environmental effects on humans. In this situation it relates to the degree of enhancement (approach) or hindrance (avoidance) of performance and satisfaction with task performances. Many studies within the retailing area provide a link between emotions and approach avoidance behaviour. In general studies show higher levels of pleasure are linked directly with an increase in approach behaviour (Donovan and Rossiter, 1992; Donovan, Rossiter, Marcoelyn and Nesdale, 1994; Chebat, Gelines-Chabet, Vaninsky and Filiatrault, 1995; Jang and Namkung, 2009). A number of studies also show an increase in approach behaviour when greater levels of arousal
are present (Donovan and Rossiter, 1982; Ridgeway, Bloch and Dawson, 1989; Jang and Namkung, 2009) while some studies do show little or no influence on approach-avoidance behaviour (Donovan, Rossiter, Marcoolyn and Nesdale, 1994). Dominance, as an emotional response, has gained less attention than both pleasure and arousal within retail settings. In those studies that have explored it there is a suggested linked between high levels of dominance and approach behaviour (Jang and Namkung, 2009) but a number of studies also show a relationship of no influence (Donovan and Rossiter, 1982). The second suggested outcome is satisfaction which a number of authors suggest is important in a student’s overall education. A number of studies have directly linked the PAD dimensions to satisfaction. Ridgeway, Dawson and Bloch (1989) found that increased pleasure was associated with increased satisfaction. Machleit and Mantel (2001) suggested more broadly that positive pleasure, arousal and dominance would result in increased satisfaction. The third suggested outcome is engagement and involvement. Academic engagement has been linked to and is a strong predictor of student development (Astin, 1984), academic achievement (Greenwood, Horton and Utley, 2002; Singh, Granville and Dika, 2002; Klem and Connell, 2004; NCSE, 2006), retention and dropout (Astin, 1984), satisfaction (Richardson, Long and Woodley 2003) and good attendance (NCSE, 2006). While there is no current work that directly links academic engagement/involvement to the PAD dimensions a number of studies have explored the effect of the PAD dimensions on desire to affiliate (Dubé, Chebat and Marin, 1995), increased explorative behaviour (Ridgeway, Dawson and Bloch, 1989) and allocation of effect (Tai and Fung, 1997) all suggesting that higher levels of emotions increase these behaviours and thus it would be expected that higher levels of/more positive emotions would increase engagement/involvement.

**Methodology and Pilot Study**

In autumn 2010 a questionnaire was developed to explore and test the conceptual model outlined above. The questionnaire had four sections. The first section assesses the students’ emotional response to the environment and their approach-avoidance behaviour utilising measures from Donovan and Rossiter (1982) based on the original Mehrabian and Russell (1974) measures. Only those approach-avoidance/emotion measures which were appropriate to the situation were included. Section two contained scales measuring both general ambient factors and layout and design factors and included scales from Harris and Ezeh (2008), Raajpoot et al (2008), and Lewis, James and Reynolds (2007). The third section looked at the students overall feelings and includes scales on satisfaction (from Wiers-Jenssen et al 2002), and the Personal Involvement Inventory (PII)( Zaichkowsky 1994) which is used as a measure of engagement/involvement. The final section collected basic demographic data and asked for any further comments. The questionnaire was piloted on 213 students resulting in 209 usable questionnaires. The sample consisted of 49% male and 51% female, 37 students were MSc Strategic Marketing students, 176 students were year 1 Business Management students.

**Concluding Comments**

The initial pilot results suggest that students are able to determine what they do and do not like about their learning environments. Students in particular were concerned with temperature, light, comfort and equipment in their learning environments. A full reliability analysis of the questionnaire and data collection involving students from a number of universities and across subject areas is planned for Spring 2011 and more detailed results will be available for the Academy of Marketing conference in July 2011.
References


