Learner Profiles at a UK University: An Exploratory Study

In the last fifteen years, higher education in the UK has fundamentally and radically changed. Reductions in government funding have led to students taking the role of consumers who pay large amounts of money for the promise of a degree. At the same time, globalisation of higher education has led to an international study environment, which both students and academic staff often find challenging. The literature and academic practice often suggests a dichotomy between 'the British' and 'the international' student, with a focus on identifying the differences, rather than communalities between British and international students.

This paper aims to explore if this focus on differences between students from diverse cultural backgrounds is justified, or if other factors are more prominent in determining learning approach and choice of learning strategies. Identity perception, self-efficacy as a learner, intelligence perception and learning motivation together with choice of learning strategies are used to establish student profiles. The paper explores the differences between these student profiles and the extent to which cultural background impacts on these profiles. Finally, the implications of such differences for current teaching and assessment practices are discussed.

Background

One of the key characteristics of the current higher education system in the United Kingdom is that it is multinational and multi-ethnic. Students not just come from a few, but from many different parts of the world, and they are expected to be able to learn in similar ways. This leads to multiple adjustment processes both academically and socially, and not just between a student's own national group and British students and their values, expectations, lifestyle and learning styles but also between different groups of international students. The scale of both social and academic adjustment that is needed to successfully study abroad is considerable, and since the 50s a significant body of literature has developed in this area, e.g. see (Sewell and Daidsen, 1956; Surdham and Collins, 1984; Heikinheimo and Shute, 1986; Sodowsky and Plake, 1992; Lin and Yi, 1997; Wang and Mallinckrodt, 2006). These adjustment processes also often lead to a re-evaluation of fundamental concepts such as perception of identity and self, the perception of someone's own and others intelligence and motivation to learn. It is for this reason that the authors of this paper return to some of the early literature in this area, with a view to exploring these concepts anew in the newer, multinational educational environment.

A seminal author in this area was Carol Dweck. She developed the notion of two fundamentally different personal approaches to the concepts of intelligence, self and learning, namely an entity and an incremental perception of intelligence (Dweck, 1999). *Entity theorists* maintain essentially that an individual has a fixed, or static, level of intelligence and achievement and performance are linked to that (fixed) level. Therefore, a high performing individual will perceive themselves as 'smart' and expect to perform consistently high. If the achievement is less than expected, entity theorists tend to despair, expressed by such statements as 'the task was too hard' or 'I am not smart enough'. This is also strongly linked to the desire to avoid appearing unintelligent. Therefore challenging tasks are avoided and often the student does not reach their full potential, as they are unable or unwilling to move across their Zone of Proximal Development (Vygotzky, 1978). Dweck maintains that students with such an approach to intelligence are driven towards performing and 'looking smart' in the eyes of peers and teachers (Dweck, 1999, p.23). In contrast, *incremental theorists* perceive intelligence and learning as changeable. They are less afraid of learning from failures and for them, the learning process itself, not just the outcome, can be satisfying.

These students are more concerned with learning new things and 'getting smarter' rather than 'looking smarter' (*ibid*.,p. 23).

These two different perceptions of intelligence are intrinsically linked to the motivation of learners. Goal or achievement orientation is focused on achieving externally recognised success, e.g. high marks which are praised by teachers, parents and peers. Performance orientation (also sometimes referred to as mastery orientation), is exhibited by individuals who are aiming at improving their skills and expand their understanding. In Western contexts, extrinsic or goal orientation has often been associated with lower learning achievements (Kember, 2000), as it can lead to a 'helplessness' reaction if a task is encountered that the students cannot master immediately (Dweck, 1999). Some authors (Markus and Kitayama, 1991; Turner, 2006) maintain that in China and Japan effective learning is equated with labour, i.e. success derives from hard work and not innate intellectual ability. The suggestion here is that Asian students are more likely to be intrinsically motivated than other students.

Dweck's (1999) work spawned a multitude of further studies investigating goal and performance orientation. Both the terminology used and the dimensionality of the constructs developed varied. Some authors have defined two dimensions (e.g. Lee et al, 2010), but others have developed them as three factors, namely as intrinsic orientation and extrinsic (approach) and extrinsic (avoidance). Following the more common dichotomous approach, this research distinguishes intrinsic and extrinsic motivation as two independent and dichotomous constructs (Lee et al, 2010). Dweck was also the first researcher to establish a highly significant relationship between a sense of contingent (self) worth, entity theory approach and a preference for an achievement orientation (Dweck, 1999, p.115).

The construct of self is elusive. There is an enormous literature which has explored related, overlapping and interlinking constructs such as 'self', self-identity', self-construct' and self-congruency'. In the current literature there seems to be agreement that our sense of self/identify and self-worth is socially defined (e.g. Bourdieu, 1991; Tajfel & Turner, 1986). In their seminal work in this area, Markus and Kitayama (1991) present the notion of the self as independent or as interdependent, with significant consequences for cognition, emotion and motivation. These authors argue that in Eastern societies, the self is shaped by others and adapts to the needs and expectations of the community. Emotions are focused on relationships and motivations centre on achieving the expectations others set. In contrast, in Western societies the self is much less dependent on others and individuals strive to discover and express their unique inner attributes; and individual agendas are major drivers of emotions, motivations and behaviour (Markus and Kitayama, 1991). Later authors such as Kember (2000) and Kam (2012) have moderated this dichotomy. Some, such as Lindholm (1997) have entirely deputed the existence of this notion.

The concept of self is always a dynamic interplay between the psychological and the social. This is especially true for young adults who are still in the process of constructing their own identities, and is compounded if the socio-cultural context of the self is fundamentally changed. When the social-linguistic context for an individual changes, all aspects of their self (private, public and collective) are affected because language itself is an enormously powerful element of our construction of self because it shapes how we express our thoughts both internally and externally (Vygotzky, 1978). The power of language (and culture) results in the disarticulation between the pedagogy of the host institution and the pedagogies that are familiar to learners who come from different cultures of learning. (Çubukçu,, 2010). This

may lead to a perception of being disempowered and as being perceived as a 'deficient' by others (Dollinger, 2013; Hsieh, 2007, Skyme 2007).

This also leads to the question if international students perceive themselves to have lower self-efficacy than British students. Self-efficacy refers to peoples' judgments about their abilities to complete a task (Hsieh et al, 2007). Many of the studies which explore learning orientations also look at self-efficacy (e.g. Chye at al., 1997). Bandura (1997) maintains that people's actions and behaviours are guided by their beliefs about how successful they can be in performing a task. Generally, those people who believe strongly that they can successfully manage a task tend to achieve higher than those who are less convinced that they can be successful (see e.g. Pajares, 1996; Lane & Lane, 2001, Bassi et al, 2007, Hong & Lin, 2013). For second language – learners (i.e. international students) there is a sense that when interacting with a native speaker they are subordinated to an institutional context that may construct them as incompetent and problematic (Wolf, 2006, p. 36).

Self-efficacy as a learner is also linked to the use of different learning strategies and techniques. Higher self-efficacy is often associated with in-depth learning, and effective learning strategies as defined by Dunlosky (2013), whereas lower self-efficacy as a learner is can be associated with surface learning strategies and less effective learning strategies. In-depth learning refers to being able to truly understand and absorb learned material into already existing cognitive structures (HEA, 2011), including the ability to critically evaluate the learned material (Newman et al, 1995; Harlen & James, 1997). Surface learning means superficial 'rote' learning of material, focused on 'formulae' to solve problems and the inability to connect new material to previously learned material (HEA, 2011).

Based on the concepts discussed above, this study aims to identify different learner groups based on their perception of intelligence, self-identity, self-efficacy and learning motivation. Secondly, it will be investigated if these differences are manifested in different learning strategies and learning styles (in-depth and surface) and if these differences are linked to cultural background. Cultural background has been operationalised by measuring students perception of independent and independent self and recording their nationality.

Research design

Based on the literature review and an exploratory research phase[1], a survey was designed. All scales used were adapted from previous research. The source material is given in Appendix A. The survey was piloted on a mixed group of home and international students in a mid-sized UK university. No changes were required and the main survey was distributed as a hardcopy to 250 Undergraduate and Postgraduate Business and Management students during lectures. All students were on degree schemes with a significant Marketing element; and all modules used for this research were general Marketing modules taught in medium-sized or large groups. Classes were chosen to include a mix of home and international students. 189 questionnaires were returned, of which 148 were complete. The data collection took place during December 2013. The basic demographics of the sample can be found in Appendix B.

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[1] In order to enrich this research and complement the literature review, two roundtable discussions were conducted. The round table discussions took place on 27.6.13 in the context of a learning and teaching event. Participants were a self-selected group of academic teaching staff. The discussion results were integrated into the main research for this project.

Analysis and Findings
Contrary to expectations, the reliability of the scales was relatively poor. Although most scales had been prevalidated, most of them did not achieve acceptable Cronbach alpha scores. 'Acceptable' was defined as above .70, in accordance with Nunally (1978). The authors decided to use an exploratory factor analysis to find the reasons for the poor reliability. It emerged that the items loaded onto 18 distinct factors with Eigenvalues above 1 explaining 71% of the variability in the data– which explained the poor reliability as some of the scales did not load together but appeared to be multidimensional. Factors are listed in Appendix C.

A Spearman correlation analysis was conducted to test for correlations between the factors and nationality (coded into six categories: British, Chinese, Middle Eastern, African, Northern Europe and US, other) There were only significant correlations between nationality and the following factors: Study planning, Extrinsic motivation, Intelligence (Entity), Self-Efficacy (Internal), Self-Efficacy (External) and Interdependent Self. Of these only Self-Efficacy (External) and Interdependent Self were highly significant with p = .000 and coefficients of .359 and .308 respectively. ANOVAs revealed significant differences between groups for all of these factors. The largest student group, British students, had low group averages for all of the variables. The second largest student group, Chinese students, scored middle or high group means for all of these variables.

Given the nature of the data, cluster analysis was chosen to explore the data further, in order to define distinct learner groups. As the number of possible groups was not known, a hierarchical cluster analysis was conducted. Hierarchical cluster analysis was chosen as the initial method of analysis because it allows data to be classified into groups with objects belonging to one group being more similar to each other than the objects in other groups. (Research Optimus, 2015). It is commonly used to explore data when the number of possible groups is not known. For this research, the results suggested a five cluster structure amongst respondents. These results were refined with a k-means cluster analysis which produces distinct, non-overlapping and non-hierarchical clusters (IOS, n.y.) by assigning each respondent to one cluster each. The clusters derived were distinct, an ANOVA test established that there were significant differences between groups on all variables except 'importance of close people'.

Cluster 1 – The Achievers (21% of sample)
These students got the highest scores on almost all variables. They scored the highest average on in-depth learning, study planning, self-efficacy, surface learning, extrinsic and motivation, uniqueness and finishing assignments. They also got high averages (but not the highest) for independent self and intrinsic motivation. They had a medium score on incremental intelligence and the lowest scare of all five groups on entity intelligence. Only 10% of these students were British, and 90% had been in the UK for less than a year. 67% were Chinese. 81% were postgraduate students. On average, they were 23.26 years old. 54% of them are male and 46% female.

Cluster 2 – True Learners (16% of sample)
This group of students can best be described as 'true learners'. They scored high averages on in-depth learning, study planning, finishing assignments, and self-efficacy. This group of students scored low on surface learning. These students are not externally motivated, their motivation is all from within. They had a high score for intrinsic motivation but the lowest score for extrinsic motivation. The scored medium averages for both entity and incremental intelligence. This group consisted of 50% British and 50% overseas students (29% Chinese),

so the nationality composition is more balanced than in Cluster 1. This group is also equally split amongst undergraduate and postgraduate students, 50% each. However, there is a male bias – 67% of this group are male. They are 21.56 years old on average.

Cluster 3 – Immature Learners (17% of sample)
These students have the lowest average on in-depth learning and study planning, and on both internal and external self-efficacy. They also have low scores on surface learning. However, they score high on both extrinsic and intrinsic motivation, and they have the highest score on intelligence entity perception. Their self-perception is more independent than interdependent, as they have scored the highest average on independent self. This is the youngest group with an average of 19.5 years. These students are predominantly female (60%) and British (63%). 84% of these students are undergraduates, and within this group, 32% of Level 4 and 14% of Level 5 students are in this this cluster. This group of students consists of highly motivated students with comparatively poor learning strategies and low self-efficacy.

Cluster 4 - The Coasters (22% of sample)
These students have poor study strategies and motivation. They score low on in-depth learning and study planning, and high on surface learning. They have the lowest score (2.85) for finishing assignments on time. Their self-efficacy is low to medium, and they are not well motivated with low scores for both extrinsic and intrinsic motivation (lowest score). They score low on independent self and uniqueness, with medium (but not high) scores for interdependent self. They scored highly on intelligence entity. The group cuts across levels and age ranges. It is almost evenly split between undergraduate (52%) and postgraduate (48%) students. Chinese students dominate this group with 67%. Only 27% in this group are British.

Cluster 5 – The Ambitious (24%) of sample)
This group of students had the highest score for incremental intelligence, they strongly believe that with effort intelligence can be improved. They are also independent people, with a high score for independent self and for uniqueness, and the lowest score for interdependent self. They have low scores on both in-depth and surface learning, as well as study planning but they finish their assignments on time. Their self-efficacy score is comparatively low but they are highly intrinsically motivated. These students have relatively poor study skills but they are highly motivated, and believe that with effort they can do well. They come from a mix of national backgrounds. This cluster of students is predominately female (61%), and is relatively evenly split between postgraduate (47%) and undergraduate (53%) students. This cluster consists mainly of overseas students, with the majority of these not being Chinese but a mix of nationalities. This is the second youngest group with an age average of 21.2 years.

Discussion
It was the aim of this paper to explore if there are differences between different student groups in their perception of intelligence, self-identity, and self-efficacy and learning motivation, and if these variations can be linked to cultural background.

The cluster analysis revealed the presence of five distinct groups of students within this sample. The results show that whilst some of the groups are dominated by one nationality, *all groups are multinational*. Therefore some of the assumptions made in the literature about the links between the different concepts and nationality does not seem to be as clear-cut as it might appear. For example, Chinese students dominate the group of 'The Achievers' who use a full array of learning strategies, are highly motivated and have high self-efficacy as

learners. At the same time, Chinese students also dominate 'The Coasters', the group that is likely to be most difficult to reach as they are lowly motivated and have poor study skills. The intelligence perception of these two groups is at different ends of the spectrum, with 'Achievers' having the lowest score on entity intelligence and the 'Coasters' having a high score. Similarly, the perception of self for these two groups differs substantially with the 'Coasters' scoring low on uniqueness and very low on independent self, whereas the 'Ambitious' have the highest score on uniqueness and score high on both independent and interdependent self.

Students in the 'Achievers' cluster are likely to benefit from being challenged and will cope with high demands. They will not need much reassurance or support, as they use a full array of learning strategies and have high self efficacy. As they believe that effort can change intelligence, they are willing to put in a lot of effort to improve their grades but they will also enjoy learning for its own sake. They want to be taught in a variety of ways and are willing to engage with different teaching styles and uses of technology.

'True Learners' are also interested in learning for its own sake, and to better themselves. However, as learners they are less versatile than the Achievers, and rely on in-depth learning strategies. True learners are independent, highly motivated learners from a range of cultural backgrounds but their reliance on in-depth learning strategies can be a limitation if courses or units are designed to cater for multiple short term assessments. They are intrinsically motivated, so good grades alone or the degree at the end are not sufficient motivation, these learners will also want to be satisfied with their own performance and thus seek feedback for to improve themselves, rather than to negotiate marks.

'Immature Learners' are the most vulnerable learner group. They are highly motivated, both extrinsically and intrinsically, but they lack both self-efficacy as a learner and good study skills. They also believe that intelligence is 'given' rather than changeable, making them susceptible to giving up if things do not go well. These students need support to recognise that effort can make a difference, and this effort should involve developing better study planning and learning strategies. An interesting question for further research would be if most drop-outs in the first year (almost all of the students in this group were undergraduates) are from this learner group, although it needs to be noted here that by no means all undergraduates fall into this group. Therefore a suggestion for Level 4 support might be to identify students with this profile early and offer targeted support that raises their self-efficacy and improves their learning strategies.

'Coasters' are most likely to be the most difficult group to engage. Due to their low motivation, these students will always try to find the easiest possible route. They are also not confident learners, and lack self-efficacy and independence. Their entity approach to intelligence prevents them from putting in more effort as they perceive intelligence as largely unchangeable. Effective teaching strategies for these students could include small group face-to-face teaching and individual tutoring to increase their confidence and self-efficacy as learners as well as encouraging them to try a little bit harder. Allowing them to 'hide' in large groups leads to further 'coasting' usually at a relatively low level. But in a mass higher education system it is exactly these elements that are most difficult to achieve.

The 'Ambitious' have a strong opinion that intelligence can be changed and that effort pays off. Although their study strategies are relatively poor, this is compensated for by high motivation, independence and desire for uniqueness. These students are keen but due to their

poor study strategies their enthusiasm may not always translate into academic success. They need support to channel high motivation into better academic study habits and more successful learning strategies.

Conclusions

The UK higher education system has over the years developed into a mass higher education system in which large numbers of British and international students are taught together. Whilst there has long been an awareness of different learning styles and approaches, it has not yet been explored how self-perception and intelligence perception link to different learning styles, strategies and motivations and cultural background. In line with previous research, e.g. Kam (2012), this paper suggests that the constructs of interdependent and independent self are not as dichotomous as some authors suggest, as many individuals score either high or low on both. Nationality and interdependent self are highly correlated (but nationality and independent self are not). This could imply that cultural background as expressed in the notion of self may be less important as a determinant of learning style and approach than often assumed – cultural specific behaviour amongst students can overshadow the fact that actual learning strategies, techniques and motivation are very varied between students from one nationality. Perhaps rather than thinking in terms of international and British students, we should think in terms of learner types.

Although this study was multinational, the ratio of nationalities was not balanced. This is undoubtedly a limitation, and further research with a more balanced sample would be desirable to see if the learner clusters found hold true across a different range of nationalities. Furthermore, this study was limited to business management students taking Marketing modules. For other cohorts and subjects the results may have been different. There may also be a range of additional aspects which impact on self-perception and perception as a learner which could be explored in further research. This includes the possible impact of different teaching styles; the impact of the acculturation and the potential cultural interaction effects between different students groups or students.

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Appendix A

Independent and Interdependent Self Concept	Dixon, D.J.& Robinson-Riegler, Dixon, G.(2009) The Effects of Language Priming and Unique vs. Collective Self-Priming on Independent and Interdependent Self-Construal Among Chinese University Students Currently Studying English. *Current Research in Social Psychology, 14*,8, 122-133.
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Please contact Dr Antje Cockrill at antje.cockrill@uwtsd.ac.uk for details of the scales or the full survey in electronic format.	

Appendix B

Demographics n=189

Gender	47% Male	52% Female	
Age*	50% 18-21 years old	44% 22-25 years old	6% older
Study Level	38% Level 4	15% Level 6	46% Level 7
Nationality*	42% British	40% Chinese	20% Other
Length of stay in the UK*	29% Less than a year in the UK	27% 1-5 years in the UK 3% 6-15 years in the UK	41% all life in UK

*Data has been collected in disaggregated format and coded for easier reading.

Appendix C

Below a table of the new factors, their items, loadings, and where appropriate reliability scores:

Factor	Item	Loading	Cronbach Alpha
In-depth learning strategies	Use keywords	.623	0.755
In-depth learning strategies	Make a mental image	.721	
	Restudy material	.443	
	Test myself	.487	
	Relate materials together	.583	
	Really understanding	.471	
	Look at relationships between topics	.656	
	Want to find solution myself	.511	
Surface learning I	Often don't understand	.573	0.534*
	Spend a lot of time copying	.597	
Surface learning II	Only do easy exercises	.680	0.727
	Cramming	.803	
	Spread learning	.771	
Study planning	Have study plan	.810	0.708*
	Organise work	.743	
Self-efficacy – internal	Get myself to study if there are more interesting things to do	.484	0.741
	Always concentrate	.801	
	Take good notes	.725	
	Remember information	.616	
Self-efficacy – external	Use online recources	.503	0.671

	Use library	.475	
	Participate in discussions	.485	
	Try to find explanations	.428	
	Write summaries	.675	
	Use keywords	.673	
Surface learning I	Often don't understand	.573	0.534*
	Spend a lot of time copying	.597	
Surface learning II	Only do easy exercises	.680	0.727
	Cramming	.803	
	Spread learning	.771	
Extrinsic motivation	Important to be famous	.621	
	Important to have a lot of money	.778	
	Important to own many things	.788	
	Important to make i	.584	
	Achieve goals at any costs	.410	
Intrinsic motivation	Important to have a good job	.521	
	Important to provide for family	.725	
Intelligence entity	Can learn new things but not really change	-.432	0.675*
	Cannot really change how intelligent you are	-.477	
Intelligence incremental	With effort you can change intelligence	.740	0.709
	Can change even basic intelligence level considerably	.744	
	Can always change how intelligent you are	.815	
Independent self	Satisfy own interest	.814	.719
	Fully realise own potential	.744	
	Have own standard	.567	
Interdependent self	Do what group wants to do	.470	.620
	Find place within a group	.822	
	Maintain group harmony	.652	
Importance of close people	Close people important parts of self	.730	.655*
	Strong identification with close people	.700	
Independence	Family and friends should not influence decisions	.775	.310**
	Cannot change intelligence	.533	
Uniqueness	Others should not influence self-perception	.606	.468*
	People should be different from others	.757	
Origin of self	Happy life as result of own effort	.694	.381**
	Family basis of who we are	.695	
Time management	Try to finish assignments on time	810	

* Factor reliability is likely to be underestimated as it has only to items, see Eisinger et al (2013)   ** Factor omitted as it lacks face validity and has low reliability.