



Title	Redefining learning environments through design management in practice to re-imagine business education.
Type	Article
URL	https://ualresearchonline.arts.ac.uk/id/eprint/12457/
Date	2014
Citation	Sadowska, Noemi and Taylor, Rebecca (2014) Redefining learning environments through design management in practice to re-imagine business education. Regent's Working Papers in Business & Management 2014, 14 (01). pp. 1-10.
Creators	Sadowska, Noemi and Taylor, Rebecca

Usage Guidelines

Please refer to usage guidelines at
<http://ualresearchonline.arts.ac.uk/policies.html> or alternatively contact
ualresearchonline@arts.ac.uk.

License: Creative Commons Attribution Non-commercial No Derivatives

Unless otherwise stated, copyright owned by the author

Redefining learning environments through design management in practice to re-imagine business education

Noemi Sadowska

Regent's University London, Inner Circle, Regent's Park, London, NW1 4NS, UK.
sadowskan@regents.ac.uk

Rebecca Taylor

Independent Researcher, UK.
becca@thecuriositybureau.com

Abstract: For global business and design management to thrive in a consensual learning environment there are various pedagogical approaches that can be applied. In particular, following designers from their native design environments in search of non-native environments can offer insights into applied pedagogy in both business and design education.

Thus, this paper explores how experiencing the value of design management in practice can assist the business degree learner to overcome pre-conceived boundaries created in their native business environment and reconstruct new boundaries in order to define a new native environment and thus awaken their curiosity and enhance their learning experience.

Woven throughout the study is the aim of 'futuring' students' knowledge of design management to deepen intellectual curiosity, therefore encouraging the development of a learning and research culture. The paper draws on an evaluation of teaching and learning methods applied on design management modules, which are part of the BA (Hons) Global Management degree at Regent's University London.

Keywords: Business; Design; Non-native environment; Applied pedagogy; Overcoming pre-conceived boundaries.

Word count: 5,679.

I. Introduction

A programme revalidation process within an institution of higher education has always been a time for reflection and rejuvenation of educational experiences offered by the given institution. This took place when the BA (Hons) Global Management programme (BAGM) at Regent's University London underwent a process of revalidation between 2010–2012. It prompted not only review of the programme itself but also resulted in significant rethinking of the way design management education fits within the broader context of the global management undergraduate programme in a business and management faculty environment. The revalidation process has highlighted many opportunities to bring design pedagogy into the context of business education. However, it has also highlighted the challenges, in particular the tension generated when delivering a design management curriculum in an environment unfamiliar to business students.

As the learner evolves through the BAGM programme they are exposed to a number of pedagogical approaches, more commonly referring to business models familiar to that of traditional business management academia, focusing on ‘... the rationale of how an organisation creates, delivers, and captures value’ (Osterwalder and Pigneur, 2010, p. 14). However, it is the experience of inserting design management education into this otherwise traditional business programme that is the focus of this paper.

Design management is delivered as one of the programme pathways entitled Global Business and Design Management (GBDM). The key to selecting the GBDM degree pathway as the focus of this paper stems from the fact that this undergraduate degree makes design management part of its core business curriculum. As part of the revalidation, the programme team updated the content of the modules belonging to the GBDM pathway and, in doing so, began addressing the following question: how does one create design pedagogy in a non-native design environment? This has formed the research question for this paper reflecting upon what happens to an undergraduate global management learner who has entered a business school and is now met with non-native cognitive challenges.

In this paper the educational environments that students engage with, we the authors, have termed as ‘native’ and ‘non-native’. The ‘native’ refers to the environment which students perceive as: familiar, known, comfortable and meeting their expectations – it is the norm. In juxtaposition the ‘non-native’ environment is: unfamiliar, unknown, uncomfortable, unexpected, and perceived different – it is the other.

In overview, the GBDM pathway is integrated into the degree programme and is one of five pathways in which the learner can choose to specialise. The other pathways are: Global Business Management, Global Business and Sustainability Management, Global Financial Management and Global Marketing Management. All learners in the degree programme join together to complete core modules which expose them to each potential specialism. In the case of the GBDM pathway, learners begin with Creative Behaviour followed then by Design Thinking modules. Following on from these first and second year modules the learner can then choose to specialize in the GBDM pathway and complete Design Management Practice and Theory module followed by Design Leadership module, augmented with design management electives. While the learner progresses through the design management modules they are also undertaking traditional business modules focusing on business planning, human resource management, customer behaviour and financial management. Thus, students gain a holistic approach to learning about business and management, whilst developing their ability to implement design thinking and process to promote continuous innovation and improve business performance.

2. Background

The perception of the role of design in business has seen little change with regards to the traditional approach taken by business schools to teach business management studies at undergraduate level. Considering current business curricula for undergraduate programmes, it is evident there is a deficit in understanding of the benefits of design in business. While rigorous research is conducted in the

field of design management from the likes of the Design Management Institute (DMI), Design Council, European Academy of Design (EAD) and others, a gap remains between these studies and curricula championed at business undergraduate level.

Inspired by Jonannson (2010) who questions what happens when designers enter environments that have little experience working with design practitioners, this paper explores how current theoretical contexts and frameworks in business such as The Design Management Absorption Model (Acklin, 2011) and A Theoretical Design Management Framework (Sun, et al, 2011) can be applied to a transformative learning environment and 'problem-posing' education (Friere, 1986). Building on the aforementioned concepts, the paper asks how these contexts and frameworks are introduced to a business management student; what are the tangible outcomes (or artefacts) from these non-native (design) environments and how are business management learners adapting to the demands of these non-native environments.

The non-native (design) environment places value and emphasis on the learner experiencing design management in practice by providing opportunity for the business management learner to cross boundaries (Klein, 1996) from their native, known, familiar environment into a non-native, unknown, unfamiliar environment. Referencing Freire's (1986) 'Gnosiological Cycle – the cycle of knowing' we can observe two distinct moments in the way we learn: 1) the production of new knowledge, and 2) the perceived knowing of existing knowledge. Freire and Shor (1986) maintain that all learners are creating and re-creating boundaries to their conscious knowledge. This cycle of knowing leads to curiosity and critical reasoning, in turn triggering positive emotions (Fredrickson, 2001) which, with repetition and over time, broaden, build, and stimulate more interest in the non-native environment.

The paper then reflects on how learners develop into stronger, independent learners, deepening their intelligence and 'ability to engage effectively with the practical challenges of the living world' (Robinson, 2011, p. 118). They become able to create and reconstruct new boundaries in order to define new native environments; a space in which learners now have the 'ability to solve problems in a given context' (Gardner, cited by Robinson, 2011, p. 118), feel empowered, connect knowledge, and happily occupy a new native environment to deepen and broaden knowledge of the subject in practice and theory.

3. Methodology

The paper draws on an exploratory study that follows an ethnographic narrative approach. As defined by Tedlock (2000) '[e]thnography involves an ongoing attempt to place specific encounters, events, and understandings into a fuller, more meaningful context (p. 455). In the context of this study, this approach is most suitable as it '... combines research design, fieldwork, and various methods of inquiry to produce historically, politically, and personally situated accounts, descriptions, interpretations, and representations of human lives' (Tedlock, 2000, p. 455). The human lives in this case are students and their learning experiences of the GBDM pathway. In addition, in the case of this study, the ethnographic approach is that of observation of participation, where both authors were immersed in the delivery of the GBDM pathway and its curriculum, giving them the ability to observe students coping with exposure to both business and design education. The study acknowledges that the experiences covered were '... intersubjective and embodied, not individual and fixed, but social and processual (Tedlock, 2000).

Drawing on Hammersley and Atkinson's (2007) identification of the ethnographic process, the students' actions and accounts were studied in the context of classroom delivery as they took place over the three years of their studies on the BAGM programme. The data has been gathered from number of sources including in-class observations, student fieldtrip observations, student formal and informal feedback, comments from other lecturers, as well as the authors' experiences of delivering the design management modules. The collection of data was '... relatively 'unstructured' ... as it does not involve following through a fixed and detailed research design specified at the start' (Hammersley and Atkinson, 2007, p. 3) and the categories have been drawn from the data analysis itself. The focus of the study has been limited only to students attending the GBDM pathway within the BAGM

programme thereby facilitating a small in-depth study. Finally, the resulting analysis focused on 'interpretation of the meanings, functions, and consequences of human actions and institutional practices' (Hammersley and Atkinson, 2007, p. 3) in order to generate a narrative illustrating how students undertaking business education cope with the challenge of entering a non-native environment of design education and the transformative impact this experience offers.

3.1 Design management in practice narrative as a non-native environment for a business management learner

In the process of identification of the learning environments, the starting point has been fixed to represent the learners' chosen degree subject area – global management. Analysis of the experiences encountered by the learner and the teaching staff has identified that the learners move through four environments. The term 'environment' has been defined as a space where the learner exists consciously and unconsciously, mentally and physically. The four environments are: 1) native environment in business management; 2) non-native environment in design management; 3) new native environment (foundation); and 4) new native environment (full immersion), where each environment has been defined as follows:

- **Native environment in business management**

Defined by the learner and influenced by past experiences, family and social interaction, pre-higher education learning experiences, and broader cultural influences. Provided and simulated by real-time influences assisting in the definition of the environment by the academic institution and teaching staff offering current learning experience of business management models and traditional theories and frameworks.

- **Non-native environment in design management**

Defined by the learner and influenced by preconceptions and cultural influences. Real-time influences assist in defining this environment by presenting simulated experiences non-native to the native environment.

- **New native environment (foundation)**

Defined by the learner and influenced by the past and more current, real-time experiences, the learner takes fundamental decisions to begin to formulate a new native, stemming from what was initially the non-native. The learner sees the non-native as a positive experience and opportunity as opposed to a negative and threatening experience.

- **New native environment (full immersion)**

Defined by the learner and influenced by the past and ongoing real-time experiences, the learner takes full control of the new native environment, exploring and strengthening its existence. Often showing signs of ongoing change and development, the learner is curious and seeks to continually improve the co-existence of otherwise opposing environments.

The eco-system of each environment is defined by the content accessible to and absorbed by the learner as well as the level of engagement of the learner; it therefore never pauses, stills or stops. It is a living, breathing eco-system set in real-time, informed by experience and affected by knowledge. Friere's (1986) 'cycle of knowing' is on-going and exists in each learner. Learners are empowered to manipulate the environment by challenging the boundaries they choose to define it and once the learner interrogates these boundaries and independent enquiry begins, new boundaries and a new environment is created. Through on-going intellectual enquiry and experimentation this developmental cycle continues.

The narrative below explores examples of the learner's transition and transformation between the four environments, the effect this has on their understanding of the value of design management education within the context of management education, and the tools used in order to generate outcomes from those environments.

3.2 Native environment in business management

Friere's (1986) 'cycle of knowing' forms the basis of our understanding of the native environment. There are two moments that unfold: the first moment is the production of new knowledge and then the second moment is the produce of knowledge perceived and so this builds to form an environment native to the learner. When learners are forming a native environment, it is fundamentally based on the training and explanation of 'business models' therefore recognising and encouraging learners to explore all that is (and will become) familiar to them in business education and a career in business management. For the learners attending the GBDM pathway the native environment in business consists of all the modules that they perceive as traditionally part of business education. Subjects that focus on business management, entrepreneurship, operations and organisational management, finance and accounting as well as marketing are presented as core to their business education. These subjects are also noted by the British Quality Assurance Agency as benchmarks for business and management degrees in UK and thus form a starting point for students as to what is considered business knowledge.

This native environment in business operates on the basis of identifying certainties and minimising risk. Models such as Porters Five, SWOT analysis, PESTEL analysis or 'Four Ps' and customer segmentation are introduced to business management learners early on in their studies as tools that train them in assessing the given situation and developing strategies for maximising business growth and minimising risks along the way. These tools are part of the business education curriculum world over and often leave no room for alternatives that can be drawn from design management.

In the context of this paper the identification of key 'trigger points' (Fredrickson, 2001) to motivate learners has highlighted how learners first enforce their boundaries through exploration of the familiar. Through the modules common to that of the business management degree programme students attend lectures and seminars in traditional classrooms and lecture theatres. This contributes to the formation of the native environment of business management. As the Creative Behaviour and Design Thinking modules are introduced to the learners' journey the student is gradually introduced to non-native physical environments designed to simulate a 'design studio' and therefore a more relaxed and playful professional space, with materials and resources to encourage model-making, storyboarding, mood boards, brainstorming, word association, sketching and annotating. In this space learners bring their native environment and pre-established barriers into the studio and at first struggle to identify the productive benefits of being in a playful, non-native environment. Whilst psychologically they remain in the native environment they are physically situated in a space where they are forced to formulate new interest and further reflection, which contributes to reassessing their preconceived pressure to maintain their boundaries. This can become the initial instigator to empower the learner to reflect on their native environment and begin to challenge their boundaries. Klein (1996) closely researched and interpreted the role of educational institutions with regards to recognizing interdisciplinaries and crossing boundaries of knowledge. Klein explains that, 'in emphasizing boundary formation and maintenance... the interactions and reorganizations that boundary crossing creates are as central to the production and organization of knowledge as boundary formation and maintenance' (p. 2). As the studio simulates a physical space to encourage learners to truly face their boundaries, learners are also encouraged to document their process. Their journal becomes a tangible resource in which to illustrate and express their journey and more importantly, a place to visualize development and reflect on transformation. This in turn enables learners to interact and reorganise boundaries, allowing them to not simply cross boundaries but also allow for elements to cross back into their environment.

The current study has revealed that learners who attend the GBDM pathway are very comfortable with the previously mentioned business models and analysis techniques but, given a design management problem, tend to falter and not recognise opportunities a design process can bring in generating business growth and minimise risk. The first challenge in this case is that in the business management native environment learners are not familiar with the need to apply creativity in order to approach the given problem. The analytical simplicity they have learned from business models prompts them to consider the first solution to be the correct one and spend the rest of the given time in developing that one solution rather than consider its applicability and usefulness and thus

potential alternatives. To counter this approach, it has been noted that introduction of content focused on creative behaviour has been an effective tool in providing learners with a platform to consider alternative solutions. It has also been a platform to introduce them to the next environment, that of design.

In the native environment of business management, learners demonstrate the perception of design as simply a branding tool or a way to make products and services look and feel good. This is an important environment in the learner's journey as they need a starting point to refer to and to reframe. The introduction of design as a non-native environment in the form of a studio, integrated into what would appear to be native to them, simply opens up the opportunity to enquire, investigate, and challenge the boundaries that frame the native business management environment.

3.3 Non-native environment in design management

The GBDM pathway learners become exposed to the non-native environment in design by attending the design management modules. These particular modules create platforms where learners transition through the four environments. Whilst 'managers have perhaps advanced more rapidly towards the development of a science of management than designers have towards a science of design' (Archer, 1967 cited in Cooper, 2011) there is much room for the 21st century business management learner to experiment and begin to embrace the new native environment.

It has been observed that when the design studio is introduced in learners' pre-conceived native environment, this non-native environment in design management commonly sees the learner distressed and often overtly expressing their frustration with comments such as 'I can't' and 'but this is not what I call business'. Owing to learners stretching beyond what is familiar, they are challenging their comfort zone with a mix of stubbornness and a destructive determination to rebel. This fear of the unknown takes shape and automatic shutdown can occur. To evade this, Fredrickson's (2006) trigger points for positive emotions assist in the pedagogical approach. Providing opportunities for learners to feel positive about the unfamiliar promotes their ability to transgress cultural barriers and common human behaviours which in turn can instil self-motivation in learners regardless of their cultural or academic heritage.

The non-native (design) environment has been simulated both physically on and off campus. The studio exists as a particularly strong visual cue and kinaesthetic learning experience for learners as they are physically positioned in a non-native environment. Off campus, learners are provided with a full day studio tour. This studio tour acts as an explorative and observational field trip into Central/East London. The learners experience how design is applied through a variety of incubators such as handcrafted designer-maker studios through to digital strategy and business development practices. This gives them access to designer-makers, illustrators, creative communicators, digital programmers, fashion designers, entrepreneurs, business managers, gardeners and social enterprise general managers. This creates a highly sensory experience designed to trigger positive emotion therefore motivating and welcoming them into an otherwise non-native environment – the design management environment. Learner feedback has been extremely positive: when asked 'what key things have you got out of your experience?', responses included:

"I now know the real possibility of incorporating creativity into business ... Insight into the profession [and] different ways of using design creatively in a company ... [I] learned how business works after [taking] the creative steps" (Student comments, Spring 2012)

When the learner then returns to the physical familiarity of the campus they are better equipped to overcome their existing boundaries and begin forming new boundaries with knowledge of the non-native design environment and what it can manifest. That the tour of non-native environments has triggered positive emotions sparks further curiosity and interest in design management. Here, learners are placed in the design environment in which critical reasoning of the known and unknown is key to the development of ideas and potential solutions. They are presented with the situation that not one single answer is necessarily the right solution and the challenge lies with the rapid acquisition of a new toolkit to explore the same problems as they have been addressing before. This includes

visual mind mapping, group debate surrounding innovation and connecting seemingly disconnected theories and observational strategies through ethnographic, user-centred methods. This immersive approach drawn directly from design pedagogy forces students to begin combining that which they have learned within their business modules alongside knowledge and experiences gained from their design management modules, leading to development of the foundations of new native environment.

3.4 New native environment (foundation)

Acklin (2011) points to the need for a conceptual model to further assist the absorption of design management into SMEs with little to no knowledge of design. Zahra and George (2002) define Absorptive Capacity 'as a set of organizational routines and processes by which firms acquire, assimilate, transform, and exploit knowledge to produce a dynamic organizational capability' (p. 185). Acklin (2011) builds on this definition by creating a model which takes the business practitioner through the 'acquisition, assimilation, transformation and exploitation' (p. 9) of knowledge and enhances it with design as an integral ethos. In addition, further research has also been carried out by Sun, et al (2011) who have created a Design Management Framework to challenge the way business management should fully integrate design management into business. Allowing for both aforementioned strategic management and business practice models to influence that of a teaching and learning strategy and by mirroring this model of absorption in the classroom, the new native environment starts taking shape for the learner.

The foundation of a new native environment acknowledges the impact of the external world of design management and business management. In this process of redefining their environment the learner looks beyond the discipline to the nature of the shared challenge. Having been exposed to professional practice of design and its impact on business practices, the 'new native' environment further connects learners with examples of theory and practice. They begin to explore further the results of design research and test the realization that their new toolkit can provide them with new native exploratory techniques and therefore a deeper level of intellectual enquiry.

Guest speakers are invited to share experience and knowledge and the learner welcomes them into their new native environment. This is evident because, as learners build confidence they interact in depth and breadth with the guest, probing further into the subject area of design in business and the guest's area of expertise. This is the beginning of building and informing the boundaries of their new native environment. Here learners can see further multiple disciplines applied in a professional context. In this foundation of the new native environment learners begin to understand the validity of that process and its application in a real-world context.

To further prompt the learner to reframe the make-up of the new native environment failure is encouraged through formative and summative assessment process of real-world simulated projects. The learner must provide evidence of 'failed' attempts to inform and gain assessment for the module. These opportunities have been built into the design management modules to highlight the value of experimentation and multi-answer solutions.

The founding of their new native environment is a phase during which learners begin to demonstrate confidence in developing a convergence of both the design and business environments and begin to reframe the original native environment through the non-native environment of design. Here the reflective aspect comes to the fore. In order to develop the new native environment which operates at the juncture of design and business, learners need to reflect on an iterative basis on their experience, on the tools and techniques they apply to resolve given challenges and how creativity can be used to their advantage. The reflection process helps to build the confidence in decision-making, which in turn reframes their understanding of what they are presented with and how it is changing as they themselves develop. Comments such as: 'This chapter opened my views on how fast design is impacting business and has got me thinking of how I can use what I have learned from this module' (Spring 2012) when reflecting on reading of The Handbook of Design Management (Cooper, et al. 2011) become much more common place. Their process journals continue to act as physical record of their level of enquiry and serve a distinct purpose in this ongoing experimental process of trial and error and design development.

Learners implicitly map out the non-native environment as a new native one and begin to combine the business models and design methods to form the foundation of a new environment that they can draw upon to resolve any given complexities. Learners gain insights that permit them to understand this phase from a different perspective. Knowledge is assimilated and a more mature response to the unfamiliar is evident. The boundaries are now not in as much flux as in the previous environment.

3.5 New native environment (full immersion)

This is the arrival of a learner as a multi-disciplinary, open-minded and fully informed business manager and future business leader. The hesitancy to explore a whole new native environment has now been eradicated. The learner has reached this environment and met challenges with open-mindedness. The foundation formed in the third environment is now built upon with the learner fully immersing themselves in further critical reasoning, professional practice, and expert tendencies to hunt out the best solution for the business context.

An example of learners defining the new native environment and being fully present in its space is that of a class of eighteen final year students required to participate in a project titled Public Space Innovation Collective. This was a co-taught module that placed learners in teams of two. Over twelve weeks the brief was to define a public space required for the project, rationalise the criteria for success, take full control of the project and present their findings, ideas, and methodology in the form of a curated public exhibition. This simulation of a curated exhibition is common in design education, but is not often seen in business management education. Whilst learners are without the core design skills to make the presentations ultimately aesthetically pleasing, it was stressed to the learners that the criteria for success was that of coherently presenting their proposals, engaging the audience in attendance, showcasing their plan to realistically bring the project to life, and to react to the questions and answers from the real-time queries of the audience who attended. Each team then had the opportunity to reflect on their experience and to record their experience in their process journals. Whilst feedback from the learners identified it as a high intensity and fully immersive experience, they were provided with the platform to engage in simulating a new native environment.

The new native environment is the final environment in the journey. This environment is a redefined business environment where learners have completed the process of leaving what has been familiar to them, seeing it through the unfamiliar and upon reframing the familiar, completing an exercise from a completely different perspective, thus resulting in a new understanding. This environment is conceptual and manifests itself often after learners have completed the experiential kinaesthetic nature of the modules. Often this environment is not consciously acknowledged until learners are confronted with a new challenge and they recognise the new perspective they have acquired to accomplish the task at hand.

Learners often indicate through feedback – at the conclusion of the module or indeed at the end of their studies for their management degree that they have reached an ‘aha’ moment which indicates their understanding of the change and reframing that took place. Many learners acknowledge growth in their own confidence, they also acknowledge their own conscious effort to know and recognise the environment in which they are present. Often their approach to given challenges combines both design thinking with strategic thinking where they recognise that only through the application of creativity and analytical thinking they can address the given challenge or business situation. The resulting responses thus tend to be much more innovative in scope demonstrating a much greater entrepreneurial direction. When they arrive at this state of consciousness only then are they empowered to truly delineate the boundaries of the new-native environment.

4. Insights and Conclusion

Throughout the study, it has been observed that learners participate in six distinctive stages that allow them to move from their native business environment to the non-native (design) environment, empowering them to emerge into a new native environment which offers a greater set of

opportunities than those encountered before. These stages can be defined and thus utilised as a teaching and learning strategy to support this progression. They have been identified as follows:

- Define and discuss the space in which the learner exists as a ‘business student’
- Gather and discuss the ‘meaning science’ of design
- Share and discuss examples of the effects of design on business
- Explore and engage with business and design professionals in practice
- Encourage opinions from the learner to establish principles of design in business
- Empower learners to experiment with design in a business context

Moreover, the analysis has revealed that this process of progression through the environments, when made explicit through the above teaching and learning strategy, has transformative properties for both the business learner as well as for those involved in delivering the curriculum. Upon reflection, it is a journey through environments formed of boundaries, which can be defined and redefined through sense-making underpinned by emotional investment. It starts with existing knowledge that provides comfort and fuels resistance to and suspicion of new and unfamiliar, however the progression through the environments leads to transformation through temptation, inquisitiveness, reflection and playfulness resulting in new comfort. Thus, we argue that the process of progression through the four environments takes place in what we term an ‘emotion universe’. Within this emotion universe, there are plenty of boundaries to be crossed and moments when crossing those boundaries creates sparks to help inform the learning experience and lead to transformation and knowing.

In recent years design management frameworks have been proposed, designed, and applied by design management researchers (Acklin, 2011; Johannson, 2009; Sun, et al, 2011). The approach appears to be integrating and trialling the value of these frameworks in the context of local and global businesses. It has therefore been a useful process to reflect on how those frameworks can also be applied to undergraduate study in business management. This paper has therefore further established the benefit of applying design management frameworks as a means of re-imagining business undergraduate education.

The paper thus concludes that whilst the move from native to non-native environments naturally occurs in learners who experience a ‘cycle of knowing’ (Friere, 1986), the new native environments can only form when the transformation through acquiring new knowledge and experience does not take place in silos. Should subjects knowledge remain independent as opposed to fully collaborative and integrated, the movement from native to non-native environment becomes a ‘vicious cycle of knowing’ as opposed to an ‘iterative cycle of knowing’ – one that builds and broadens to create a fully transformative and productive learning experience. With this in mind, should design management continue to be taught as a subject, independent from ‘traditional business management’ it would only continue to prompt boundaries and resistance amongst learners and teachers alike, who could (with relevant support) be convinced of value of design management in business.

Following the time spent reflecting on the four environments and the cognitive progression of an undergraduate global management learner, it is strongly recommended that further research and reflection be conducted in response to a newly arising question: how can we integrate, sustain and share in the success of a new native environment? Thus, the paper concludes with the insight that design management pedagogy in non-native environment requires not simply acknowledging of its influence on a business management learners but, rather, requires an ongoing reflective process which explores its transformative nature and the opportunities it offers to re-imagine business education in the 21st century.

References

- Acklin, C. (2001) Design Management Absorption Model – A Framework to Describe the Absorption Process of Design Knowledge by SMEs with Little or No Prior Design Experience. 1st Cambridge Academic Design Management Conference. 7-8 September 2011. Cambridge, UK. pp. 1-14.

Cooper, R., Junginger, S. and Lockwood, T. (eds) (2011) *The Handbook of Design Management*. London: Berg Publishers.

Fredrickson, B. L. (2004) The Broaden-and-Build Theory of Positive Emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences*. The Royal Society. September 29; 359(1449) pp. 1367-1377.

Hammersley, M. and Atkinson, P. (2007) *Ethnography: Principles in Practice*. 3rd Edition. Taylor and Francis Group. Taylor and Francis e-Library.

Johannsson, U. and Jahnke, M. (2010-2013) *Design & Innovation*. University of Gothenburg Business & Design Lab. Gothenburg, Sweden.

Klein, J. T. (1996) *Crossing Boundaries: Knowledge, Disciplinarieties and Interdisciplinarieties*. Charlottesville: The University Press of Virginia.

Shakera, Z. (2002) Absorptive Capacity: A Review, Reconceptualisation and Extensions; Georgia State University, GERARDGEORGE University of Wisconsin-Madison Academy of Management Review 2002, Vol. 27, No. 2, pp. 185-203.

Shor, I. and Freire, P. (1987) *A Pedagogy for Liberation*. Westport: Bergin & Garvey Publishers Inc.

Sun, Q., Williams, A. and Evans, M. (2011) A Theoretical Design Management Framework. *The Design Journal*, 14 (1), pp. 112-132.

Tedlock, B. (2000) Ethnography and Ethnographic Representation. In: Denzin, N. K. & Lincoln, Y. S. (eds), *Handbook of Qualitative Research*. 2nd Edition. Thousand Oaks: Sage Publications, pp. 455-486.