A STUDY ON IMPLEMENTATION OF GREEN INTERIOR AND SUSTAINABILITY FROM ISLAMIC PERSPECTIVE IN NEW INTERIOR DESIGN COURSES: NEW INTERIOR DESIGN DEPARTMENT, INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA

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ABSTRACT

Interior design, as a field of study, is a rapidly growing area of interest for the last 2 years particularly for students in Centre Foundation Student (CFS), International Islamic University Malaysia. Part of this interest stems from the information of friends, television media and other source such as advertisements, interesting job and etc. Some of the educators and curriculum specialists in the nation perceive the study of interior spaces as a 'practical application' of the knowledge, arts, and psychology.

The purpose of this study is to define Education program in future of Interior Design Department and Green interior's material environment by surveying the criteria for evaluating interior design environment performance and to evaluate the negative influences of main interior material products. It's also to discuss an experiential of the course application in the studio or assignments, currently used in second year, third year and final year.

The result of this program, Green, Sustainable education input will help the students to be a specialist, such as designers who actually contribute and make decisions to use more environment friendly materials in their design. It will also encourage the manufacturers to produce environment friendly materials.

Keyword; Green Building Index, sustainability, environmental, green interior, education, framework

INTRODUCTION

Principles of green environmental sustainability have radically transformed the context of teaching materials to students of interior design program. While learning about material issues in a

general sense introduces students to a wide range of design issues, including performance and aesthetic properties and questions of expressiveness and character.

Interior design education is by nature as Trans disciplinary as green, sustainability education. Design students learn about environment, human behavior and economic relationships through holistic, systems-based means, encompassing the fundamental components of green and sustainability (Fig 1.0).

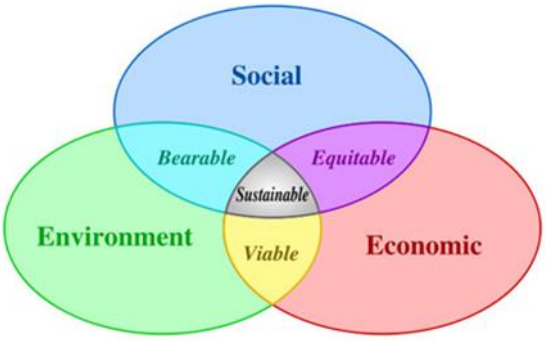

Fig. 1.0 – green, sustainable education diagram
(sources; articlesbase.com/environment-articles/the-green-policies-of-o-hotels-suites,2009)

A model of green sustainable education, represented by the interior design education curriculum, may be translated and potentially imitated by other non life-science disciplines; interior design education may provide a valid prototype for a sustainability education focused curriculum. A course of study is provided that includes lessons and resource examples for educators or administrators. Outcomes of the students' and graduates' experiences are also shared (Gordon & Berry, 2008).

The focus of this paper is to consider how the framework of proposal green and sustainability affects the teaching material resources in the future Interior design department. While understanding and applying material properties involves critical issues beyond sustainability, it is the environmental concerns about materials that provide students with an integrated context with the environments. When the student learns where materials come from and the resources that are used to deploy them, a door

is opened to the broader implications of their designs beyond the walls of the interior.

"Allah wishes to make things easy for you, and not to make things difficult for you," [Surah Baqarah 2:185] and "We did not place difficulty in this religion." [Surah Hajj 22:78]

Islam has given rights to all creation; we are not to harm any human, animal, plant or even ourselves unjustly. We must stay away from all sources of vice and whatever leads to them and we must fulfil our basic obligations. If we do these things, we can enjoy the permissible things of this world like family, spousal relations, physical sports or whatever you enjoy as long as you do not break the rules of Islam.

The concept of Green and Sustainability have been mentioned in the above Surah Baqarah and Hajj respectively which Allah wishes to make thing easy and not place difficulty in this religion.

The problem being addressed by the paper is that the previous academic study of design, building material and others related academic studies emphasizes selection criteria that lack a comprehensive and inter-connected context. It is an unsustainable approach. This paper shows that class assignments and the work of the students as evidence that green and sustainability can be the framework to unify material issues for students.

Based on the proposal, students of Interior Design are introduced in two principal ways of building materials: first, through technical courses dedicated to material technology course outlines and second, through their creative application in studio courses. In the technical courses, the understanding of a material's environmental impact can be explored through an exercise of their assignments both of the course outlines. Examples of student projects demonstrate the complexity of the discussion and the evaluation of green-washing in the product literature (DuPont 2012). The moral frame of sustainability offers a relative standard for this lesson in critical assessment.

In classes, students apply this material knowledge in design projects. First year students are asked to consider a project space through the filter of the concept of the green, sustainability of the material, the end of result of the product presentations. While the materials have been applied in project space and the

interior design has been taught, the selection of the materials exclusively to be on aesthetic and performance criteria. Students make material selections based on a unified conceptual framework that simmers under their other valuable ideas (Winchip 2011). Students learn to simulate professional scenarios by addressing limited resources responsibly.

As professionals and client groups demand changes from unmanageable patterns of consumption of natural resources (LEED 2009), academic material studies are re contextualized. The frame of sustainability creates moral, contextual and critical lessons for students of design.

METHOD AND SCOPE

The purpose of this study is to research into the environment-friendliness in interior design, material products and other academic studies so as to improve the quality of indoor air, to grasp the importance of indoor environment and the factors which influence indoor environment.

First of all, the concept of 'environment-Friendly' was defined on the basis of the documentary records and the general theories on the pollutant that influence the quality of indoor air were considered by investigating the details for studying on the indoor air environment with domestic and foreign certification systems. On the basis of the derived basic concepts, the negative influences of interior material products mainly used in the office spaces were investigated as well.

Sustainability Education can take many pathways and forms as it becomes integrated with various curriculums. Discipline criteria dictate the manner and degree to which Sustainability Education becomes embedded or merely an add-on to course content, and often this is determined by faculty who are champions of the cause. Because sustainability encompasses both environmental and social justice, educational content areas that are by their nature interdisciplinary may serve as fundamental models of Sustainability Education. Additionally, a teaching style that stimulates systems thinking and encourages relationship building provides ideal conditions that help promote collaboration and community involvement (Nichols & Shorb, 2007). Interior design practice and interior design education encompass multiple

disciplines, including architecture, human ecology, ergonomics, environmental psychology, sociology, economics, marketing and consumer behaviour, art, construction, materials science, and more. Interior design education therefore provides an excellent representation of sustainability education, because it is holistic, broad-based, and an exploration of the human-environment connection (Nichols, 2007).

Sustainability Education is identified by five key characteristics,

1. An authentically interdisciplinary curriculum,
2. Transformative, experiential learning,
3. Instruction on how ecological health informs policy and ethics,
4. Collaborative learning experiences that focus on enhanced communal relationships and
5. Action research paired with teaching and learning that serve local and global communities (Nichols & Shorb, 2007).

The twin disciplines of architecture and interior design have realized the vital services they provide that endorse and advance the goals of sustainability.

SUSTAINABILITY EDUCATION PROPOSAL IN INTERIOR DESIGN DEPARTMENT CURRICULUM

Interior Design program is proposed within the Department of Applied Art and Design of Kulliyyah Architecture and Environmental Design, International Islamic University Malaysia. Educators in the university's Interior Design program may share case studies of the program of Green and Sustainability Education characteristics and provide the transformational learning and ecological literacy. The flexible, adaptable and responsive learning conditions may represent natural life processes and encourages discovery of self and the world. It also explorative methods of problem solving by design practitioners. Proposal of the program will be held on 2014 -2015 attentively program structure curriculum consists of 130 credit hours across 43 courses. These are distributed across 4 levels which are classifying Year 1 to Year 4 with a total of 8 Semesters. A brief description of the course name and sustainable design education input lessons contained within are as follows:

Year	No. of ID Core Course outlines	No. of course outlines on green and sustainability education	Total Credit on green and sustainability in course outline (CR)	Total Credit Hours (TCR)	Percentage (CR)
1	13	5	14	34	41%
2	12	7	23	34	67%
3	10	8	20	31	42%
4	8	4	18	31	58%
Total 8 semester	43	24	75	130	58%

Table 1.0 – Summary of sustainability education throughout 4 years of Bachelor of Interior Design (Hons)

FIRST YEAR

AIA 1100 Design Foundation-Studio 1 – Lessons include Students will explore principles, elements and concepts of creating design through various methods emphasizing form, shape, surface, texture, colour, value, line and their interrelationships. Different elements of interior design materials such as wood, textiles, ceramics, glass and metal and mixed media will be introduced. Various technical aspects will be explored.

AIA 1140 Building Construction & Technology 1- Materials & Construction - Lessons include: Life Cycle Analysis, Green Materials in interior design concept and the simple knowledge of basic construction of the old and the new method of the Sustainable Construction approach. The Green and Sustainability Educations could be concluded with the assignments of green interior products such as material and method of construction of floor, wall and ceiling.

SECOND YEAR

AIA2100 Design Intermediate 1 - Studio 2 - Lesson include: a practical understanding of knowledge and skills required of Interior Architecture and design studio. Students will explore principles, elements and concepts of creating design through various methods emphasizing Islamic values, form, shape,

surface, texture, colour, value, line and their interrelationships. Different elements of green interior design materials such as wood, textiles, ceramics, glass and metal and mixed media will be introduced. Various technical aspects will be explored. Design for small footprint, design for disabilities, cultural values of space, cultural experience of space (Kennedy, 2003).

AIA 2140 Building Construction & Technology, Material and Technology - Lessons include: Sustainable Building Products, Indoor Air Quality and understanding of Sustainable Architectural Building Service. The application and definition of architectural building services i.e. Mechanical & Electrical (M & E) – Air-Cond, Plumbing, Lift, elevators, escalator, Schematic layouts of Lighting and Electricals Construction & Structural (C&S)

AIA 2241 Sustainable and Green Design 1- These courses will learn the holistic concept, design, techniques and materials in built environment technology of Green and Sustainable Design. Case study and site visits will be made to some Malaysia's interior design of GBI (Green Building Index) related buildings and interior sustainable design spaces and other related green building material exposition.

AIA 2248 Furniture Design 1 Lessons include: Preservation, Restoration, Rehabilitation and Adaptive Re-Use, Historical Precedents for Cultural Values and Social Movements, History of the Green Design Movement

THIRD YEAR

AIA 3200 Design Intermediate – Studio 5 – Lesson include : exploration principles, elements and concepts of creating design through various methods emphasizing Islamic values, form, shape, surface, texture, colour, value, line and their interrelationships. The sustainability application concept of the visual psychology, conceptual design, space planning, ergonomic study, environmental services and building material technology will be applied in interior design schemes.

AIA 3140 Building Construction & Technology 4- Material And Technology- Lesson include*:* The understanding of interior architectural Sustainability Building Services and how they are been applied in buildings. The selections of the related

services, maintenance and installation system of will be introduced. Basic knowledge on the building services system and construction will be introduced to enable student's application design works which relates to the interior design Islamic concepts, origins through re-use or disposal processes, embodied energy, sustainable construction techniques, alternative energy, resource use and waste reduction, Sustainable Construction.

AIA 3143 Project Management - Specification, Cost, Programme, Drawing Arrangements, By Law and etc- Lesson include: Lessons include: Design for cultural values, Green Building Index (GBI), design for community needs, adaptive re-use, design with scarce resources. The course is involved Project Management; it takes the practical, managerial approach and introduces to the management work. Basic framework for the overall role of operation and control in organizations will also be introduced.

FORTH YEAR

AIA 4100 Degree Project -Conceptual & Philosophy Design – Lesson include: provides a practical understanding of knowledge and skills required of Interior Architecture and design studio. Students will explore principles, elements and concepts of creating design through various methods emphasizing Islamic approach, green interior, form, shape, surface, texture, colour, value, line and their interrelationships. The application of the green and healthy design, design for the persons with disabilities, design for 'the other' (immigrants, socio-economically disadvantaged, global citizens) historic preservation and sustainability of visual psychology, conceptual design, space planning, ergonomic study, environmental services and building material technology will be applied in interior design schemes (Menzel, 1994).

AIA 4141 Green and Sustainable Design – Lesson include: These courses will learn the holistic concept, techniques and materials in built environment technology of Green and Sustainable Design. Case study and site visits will be made to some Malaysia's interior design of GBI (Green Building Index) related buildings and interior sustainable design spaces and other related green building material exposition.

AIA 4243 Interior Design Professional Practice, Marketing and Management - Lesson include: The course introduces students to the complexity of the professions, organizations and general design management of the green and sustainability interior design practice, marketing and related to environment design. The course is designed for community needs, adaptive re-use and design with scarce resources. The applications of the latest technologies will complements to the Interior Design values. The appropriate design schemes and analysis later when they are proposing for their own degree project.

CREATIVE THINKING, EXPLORATION AND INTERDISCIPLINARY CURRICULUM

In Year 1 (one) courses, students as a role-play and creative thinking, learning about limited resources, trade-offs collaborative, problem-solving, exploration and conceptual, strategic thinking and long-term planning. These lessons take the form of small projects, such as the Analysis the concept of Green and sustainability material (Kibert, 2005), prototype project and compact living. These lessons are applied to the studio works. At intermediate and senior levels, historical preservation, live and global issues studies and service-learning provide conduits for connecting students to community and connecting theory to practice.

Fig. 2.0 – Recycle material to be an ‘ART’

TRANSFORMATIVE AND EXPERIENTIAL LEARNING

At the second year level, students are forced to confront and question their place in the ever-growing market of consumerism through completing a Life Cycle Analysis of a specific product. students are asked to explore the life cycle of a selected material and trace its origin (Lieberman, 2007), research the input-output stream created during the manufacturing, transportation and packaging processes, investigate the embodied energy used to create and distribute the product and follow the material to its eventual death or reuse. (Fig. 3.0)

This project allows students to gain a basic understanding of ecology, witness how consumer habits affect the environment and discover the differences between sustainable and non-sustainable practices and companies. A transformative learning experience occurs as the student realizes a set of ethics they need to confront and take a stand for or against, thus planting the seed to become agents of change for sustainability advocacy (Mezirow, 2000).

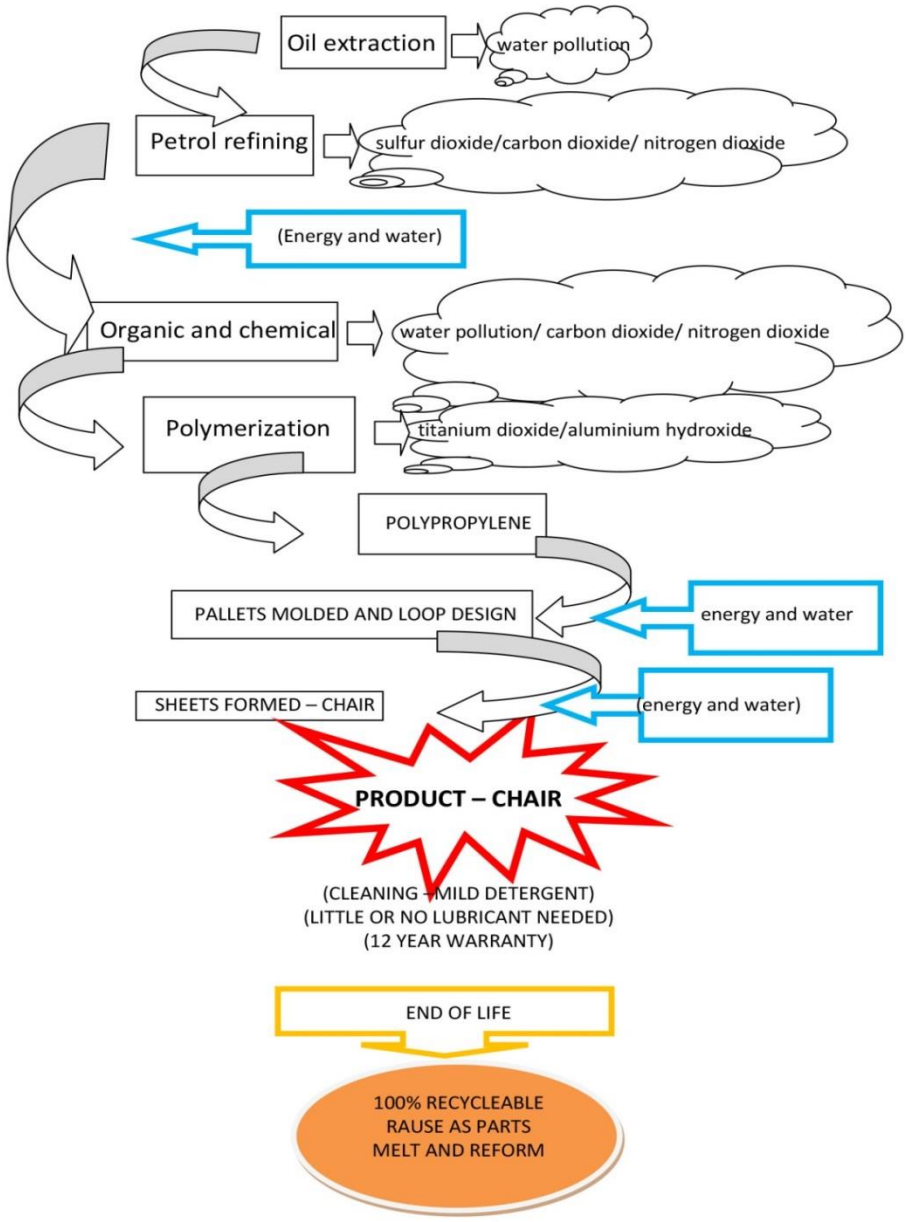

Fig 3.0 – Life Cycle Analysis

ACTION RESEARCH

At the third and fourth year, students become independent researcher in a studio design project; however the size of the project may different between respective years and matrix of the project as prepared by the educators. During this studio class, students study ecological design strategies, green building processes and the Green Building Index (GBI) is Malaysia's industry recognized green rating tool, where for buildings to promote sustainability in the built environment and raise awareness among Developers, Architects, Engineers, Planners, Designers, Contractors and the Public about environmental issues and our responsibility to the future generations (GBI 2013). Student in groups are challenged to think beyond the traditional steps of the design process in order to research and discover a holistic approach to their sustainable design solutions (Kibert, 2005).

Students to explore and discover the approach of green and sustainable design issues in early stages of design and to interact with other majoring such as in integrated multi-displinary project courses as below research could be done information;

Small project research - The Green and sustainability home design.

a. **Create a comfortable eco home with passive design**
   Orientation, spatial zoning, thermal mass, ventilation, insulation, shading and glazing are the seven core components of passive design, explains sustainable designer (Dick Clarke, 2013). Good orientation from a passive design perspective generally means locating living areas on the north side of the house, with glazing having clear access to sunlight.
b. **Design for your climate**
   In hot and dry climates, orientate the house to exclude the sun year-round and to maximize cross-ventilation. In all other climates, your aim should be to minimize summer sun and maximize winter sun, which basically means a northern orientation.
c. **Design for life**
   Make sure your home is designed for the long haul, and that its materials are durable and able to be easily reused or recycled. Crucially, when designing your house, think ahead.

Will your family grow, will it shrink or will it stay stable? How will your own health impact your needs in 10 or 20 years time? With these things in mind, you can design a house that not only meets your current needs, but can adapt to your changing needs without you later incurring the cost of an extension or renovation.

d. Size matters

The smaller a home, the easier it is to achieve higher energy efficiency standards.

e. Smart heating and cooling

How you can improve your home to make it more comfortable. Seal any leaks, use curtains and blinds, make the most of the sun's heat and shading to moderate your home's climate, and insulate. If you need air-conditioning, make sure you also have ceiling fans, which significantly increase its efficacy.

f. Insulate

One of the most effective ways to save money on energy bills and make your home more comfortable is to insulate. Insulation acts as a barrier, preventing heat passing in and out of a house. By reducing this heat flow you can more easily maintain a comfortable temperature inside, regardless of the temperature outside. Insulation is not just limited to the roof – you can insulate your walls and floor for maximum energy efficiency.

g. Be energy smart

Lighting makes up about 11 per cent of the energy consumed in a typical home, about the same as refrigeration. Households can reduce energy use for lighting by 50 per cent or more by making smart lighting choices and using more efficient technology. Spending a little time and effort to get the lighting right in your house can save you money on energy bills and make rooms more comfortable and enjoyable.

h. Use sustainable materials

All materials have an embodied energy, which is the energy used over their lifecycle, from processing of raw materials, to manufacturing through to product delivery. If you build your house with poorly chosen materials, their embodied energy could diminish or cancel out the benefits of years of sustainable living. Generally, the more processed a material is,

the higher its embodied energy. So choose sustainably sourced timbers, recycled and locally sourced materials, and low volatile organic compounds (VOC) paints and finishes. When building, keep material use to a minimum. If you're renovating, reuse what you can from the pre-existing building.

i. **Windows**
   Windows and glazed doors can let in (and out) substantial amounts of heat. So even if you've installed insulation, go for double glazing. As a general guide, the total window area of your home or a room should be less than 25 per cent of the total floor area.

j. **Be water wise**
   Catch your rainwater in tanks for use in the bathroom and garden and look into getting a wastewater treatment system.

k. **Select efficient appliances**
   When looking for an appliance, try to select the most efficient one that meets your needs and budget. Don't forget to check product reviews – a high-efficiency appliance that has a high early-failure rate will cost you and the planet more in the long run.

l. **Stay engaged**
   Our final sustainable home design is to stay tuned in to your home. Open and close blinds, doors and windows to let sunlight and breezes in or keep them out. Remaining engaged can help lessen your environmental impact and ensure your home is performing as well as it can, all the time.

Each groups completes case studies on similar to GBI procedure and requirements projects and conducts interviews with design professionals that have worked on GBI projects. Students begin the process of action research, as outlined in Checkland and Holwell's (1998). By working with experienced, professional designers and gathering evidence and interpreting data on relevant design projects, an evidence-based design action plan can be outlined. Through this project, design students experience empowerment, collaboration through participation, the acquisition of knowledge and ecological literacy skills and they gain a better understanding of designing holistically.

Green and Sustainable Design Education Cultivates Leaders and Champions of the Cause

The curriculum as proposed mainly to create venues for students to act as leaders and agents for positive change, and develop them into positions of engine to create a move of the positive design. The program of study is intentional. Those principles are routinely adopted outside of the classroom as well. The interior design often chooses activities that are both conventional and ecologically program. The students to participate in Humanity area which collecting recycle material such as used jeans and clothes, woods, paper and etc. to be constructed into insulation material and other related to the design need.

Another measurable successful outcome of the described educational program is demonstrated by the alumni, who frequently choose employment with architecture and interior design firms that specialize in sustainable environmental design. This commitment to eco-design career paths grows with each graduating class. (Nichols & Adams, 2011)

CONCLUSION AND RECOMMENDATIONS

There are important links between ecology, the life and earth. There are also several academic disciplines that attempt to declare of sustainability education ownership. The relationship between interior design, green and sustainability, a platform presents itself for discussion-for comparing the interdisciplinary of interior design with that of green and sustainability – and the sustainability-design education links are easily made. Because interior design students learn about the environment-human behavior link in a broad, holistic, systems-based manner and their education also represents the fundamental components of green and sustainability. What is presented here is a research of program, framework and road map of sustainable education, embedded in an interior design education curriculum, and it may be functionally translated to other disciplines. For academics a road-map for integrating sustainability education, interior design education may provide an excellent guide.

REFERENCES

Cama, R. (2009). *Evidence-Based Healthcare Design*. Hoboken, NJ: Wiley & Sons.

Checkland, P., & Holwell, S. (1998). *Information, Systems, And Information Systems: Making Sense of the Field*. Chichester, Sussex; New York: Wiley.

Dick Clerk (2013). Sanctuary Magazine, Issue 24, Australia: Alternative Technology Association.

DuPont (2012). *Sciences Meets Demand.*

Gordon, J. & Berry, J. (2006). *Environmental Leadership Equals Essential Leadership.* New Haven, CT: Yale University Press.

Kennedy, S. (2003). *Without a Net*. NY, NY: Penguin Books.

Kibert, C. J. (2005). *Sustainable construction: Green building design and delivery.* Hoboken, NJ: John Wiley and Sons.

Leed (2009). *For New Construction And Major Renovations Rating System.*

Lieberman, A., Saxl, E. & Miles, M. (2007). *Teacher Leadership: Ideology and Practices*. In The Jossey-Bass reader on educational leadership. San Francisco, CA: John Wiley & Sons.

Menzel, P. (1994). *Material World*. San Francisco, CA: Sierra Club Books.

Mezirow, J. (2000). *Learning As Transformation: Critical Perspective On A Theory In Progress.* San Francisco

Nichols, J. & Adams, E. (2009) Environmental Design Research Association (EDRA) Conference, Kansas City. Half-Day Intensive Workshop. *The Ethical Implications of Sustainability in Interior Design*: *Sustainability Education Offers Opportunity to Facilitate a New Kind of Leadership*. Conference proceedings.

Nichols, J. & Shorb, T. (2007). Sustainability Education and Teaching Leadership, Academic *Exchange Quarterly*, Summer 2007, pp.61-65.

Nichols, J. (2007). A Hearty Economy and Healthy Ecology Can Co-exist. *Journal of Interior Design*, Vol.12 (2) pp.6-10.

Winchip (2011). *Sustainable Design for Interior Environments*. Second Edition, Fairchild Books.