

# 1 **Connect Project: A Global Learning Experience on Sustainability in the Fashion Industry**

## 2 **Introduction**

3 The Connect Project provided a collaborative educational experience that debated the  
4 challenges of environmental impacts, over-consumption and ethics in the global apparel industry.  
5 Motivated by internationalization, four leading institutions – located in the United States (US),  
6 United Kingdom (UK), China (CH) and Australia (AUS) - collaborated on a transnational  
7 project. The project brought together four instructors/facilitators and four students, one from  
8 each institution, to travel around the world in eighteen days to learn and disseminate information  
9 about sustainability in the apparel industry.

10 The concept of communicating experiences and knowledge transfer through shared  
11 learning is what inspired the Connect project. Each institution was also keen to engage in  
12 internationalization in response to the continued globalization of the apparel industry. The topic  
13 of sustainability in the apparel industry provided common ground and important opportunities  
14 for research to all students studying fashion, across both business and design disciplines.  
15 Students would be encouraged to base decisions on the underlying premise of social  
16 responsibility and benefitting the global community and to develop a personal definition of  
17 sustainable fashion based on their perspective, research, and creativity. The partners shared  
18 common goals to engage academics, students and professionals from around the world in  
19 participatory learning toward the importance of sustainable innovation and to educate future  
20 leaders of industry, who might instigate change.

21 The challenge of understanding fashion supply chains, their operations, components,  
22 inter-connections and networks is a complex subject, further complicated by the current system,  
23 which creates over-consumption. Students must critically evaluate fashion businesses in the

24 contexts of sustainability and social responsibility, which is a greater challenge still. The  
25 Connect project enabled participants to learn about the multifaceted apparel system first hand  
26 and report information and experiences to their peers through multimedia channels. Thus, it is  
27 connecting experiences and the opportunity for knowledge exchange by reflecting on lessons  
28 learned and sharing experiences collectively that becomes important to broadening students'  
29 understanding of the fashion industry's "big picture".

30 Connect provided a collaborative educational experience that debated the challenges of  
31 environmental impacts, over-consumption and ethics in the global apparel industry. It had the  
32 following objectives:

- 33 1. To generate interest and enquiry surrounding the issues which affect the global apparel  
34 industry, the environment in which we live and our future.
- 35 2. To better understand the scope and scale of the problems and challenges that face the  
36 apparel industry in creating a global sustainable future.
- 37 3. To encourage students to become active in the campaign for a sustainable future.

38 The Connect project's design offered the opportunity to practice problem based learning  
39 (PBL), creating a focused learning experience grounded in exploring sustainable innovation in  
40 the context of the apparel industry. Through visits to each of the participating universities,  
41 constructive investigations were formed toward structuring the students learning within each  
42 socio-cultural and market context. This offered the environment in which the students learned  
43 about sustainable innovation by recording their experiences, developing understanding and  
44 reflecting on what they had learned by posting on the projects blog.

## 45 **Review of Literature**

### 46 **Overconsumption**

47           The increase in demand, supply and rapid consumption of garments in the last fifteen  
48 years has generated sizeable problems related to over-consumption and consequent  
49 environmental and ethical impacts. Increased supply and consumption generates volumes of  
50 waste, much of which ends in landfill. It is estimated that 95% of global textile waste is  
51 recyclable or could be used for energy recovery. In the UK alone, 9,500 garments are discarded  
52 every five minutes.

53           The average U.S. citizen throws away 70 pounds of clothing and household textiles every  
54 year. The U.S. Environmental Protection Agency (EPA, 2015) estimates that textile waste is  
55 approximately 5% of all landfill space and even though the textile recycling industry recycles  
56 approximately 3.8 billion pounds of textile waste each year, this only accounts for 15% of all  
57 textile waste. Textile waste grew 40% between 1999 (18.2 billion pounds) and 2009 (25.46  
58 billion pounds) and it is projected to continue to grow, reaching 35.4 billion pounds by 2019.  
59 Unfortunately, the diversion rate of keeping textiles out of the waste stream only increased by  
60 2% during the same time period (1999 – 2009) (EPA).

### 61 **Sustainability: Issues and Impact**

62           Sustainability is the idea that society should operate in such a manner that all our needs  
63 could be sustained indefinitely; processes become cyclical where companies and individuals are  
64 constantly putting back into use whatever has been created. The idea focuses on a better world  
65 not only for the present inhabitants but for future generations and encompasses these core  
66 aspects: environment, economy and social equity. Sustainability in the fashion industry has been  
67 present for years in small pockets at companies such as Patagonia (US, founded 1973), From  
68 Somewhere (UK, founded 1997) and Purepod (AUS, founded 2007). Organizations have also  
69 been founded which promote sustainability. The Council of Textile and Fashion Industries of

70 Australia has a sustainability initiative section and supports efforts by partnering with  
71 Sustainable Fashion Australia and Ethical Clothing Australia (founded 2010) to educate the  
72 industry on sustainability. The American Apparel and Footwear Association has separate  
73 committees on social responsibilities and the environment. National Association of Sustainable  
74 Fashion Designers (U.S.), founded 2008, is a non-profit organization which educates industry on  
75 sustainability and sustainable practices.

76 The apparel industry is currently facing three forces which may move the sustainability  
77 effort quickly forward (Chouinard, Ellison & Ridgeway, 2011). First, being socially responsible  
78 is no longer considered a cost in business, it is looked at as a way of doing business and a way  
79 which can add value to a product. Secondly, members of the fashion industry are creating  
80 specific measures which they can use to show their improvement and efforts in sustainability  
81 practices. Finally, The Nature Conservancy, among others such as the United Nations and the  
82 World Bank, have been working to develop ecosystem evaluation methods in order to place a  
83 “price” on that environment (Chouinard, Ellison & Ridgeway).

84 In July 2012, the Sustainable Apparel Coalition (based out of San Francisco) launched  
85 the Higg Index, a self-assessment standard designed to measure and promote sustainable supply  
86 chains in the apparel and footwear industries. This index gives companies a tool to gauge social  
87 and environmental levels and indicate where improvement might be focused. Current members  
88 include international brands, manufacturers, retailers, industry affiliates and non-profit or  
89 government organizations and international companies such as Nike, PVH, VF Corporation,  
90 Primark and H&M.

91 **Globalization**

92 Globalization is defined as the increasing phenomenon of international interdependence  
93 and interconnectivity, which brings together economic, cultural and social change (Marginson &  
94 van der Wende, 2009). According to Suárez-Orozco and Qin-Hilliard (2004), “The globalization  
95 of economy and capital; the globalization of media, information and communication  
96 technologies; large scale immigration; and the globalization of cultural production and  
97 consumption” (p. 7) will be major influences affecting youth and education worldwide.  
98 Therefore, it must be recognized that while change is increasingly rapid and globalization ever  
99 more complex, a new and radical approach to education is required (Suárez-Orozco & Qin-  
100 Hilliard, 2004). Additionally, Rizvi (2006) argues that with the shifting paradigms of  
101 international integration of products and markets, universities must become involved in global  
102 practices or “face obsolescence” (para. 4).

### 103 **Internationalization of Education**

104 In discussing the effects of globalization on education Suarez-Orozco (2008) suggests  
105 that the current generation is the first where “...the fortunes of kids growing up in Beijing, the  
106 fortunes of the kids growing up in Buenos Aires, the fortunes of the kids growing up in Boston  
107 are deeply, in an empirically verifiable way, interconnected”. That “there is no ‘over there’  
108 anymore” and education must now arbitrate the power of globalization through multi-  
109 disciplinary engagement (Suarez-Orozco, 2008). Bergan, (2010) concurs, suggesting that in  
110 order to provide a holistic education in a globalized society the individual must be made aware of  
111 the world outside their immediate experience and crucially, that higher education cannot play its  
112 part without internationalization.

113 Internationalization has been defined by Knight (2003, p. 2) as “the process of integrating  
114 an international, intercultural or global dimension in to the purpose, functions for delivery of

115 post-secondary education.” Higher educational institutions have expanded their international  
116 activities (study-abroad, foreign language offerings, international students, visiting scholars, etc.)  
117 significantly in the past twenty years (Altbach & Knight, 2007). Some of the motivations behind  
118 this increase is the desire for students to become more culturally aware which may enhance their  
119 employability after graduation (Altbach & Knight). This is particularly important in a global  
120 industry which employers may expect their employees to work across borders and cultures. The  
121 internationalization of labor markets for skilled individuals provides an incentive to gain  
122 international experience as part of their studies. Undergraduate students can benefit from  
123 education that prepares them to be global citizens (LeHew & Meyer, 2005).

124         Institutions of higher education recognize that within the global knowledge economy they  
125 will be distinguished by their engagement with internationalization in order to respond to the  
126 competitive world marketplace (Rizvi, 2006). This is a view shared by Bergan and Dramian  
127 (Bergan, 2010), who state that higher education cannot fulfil its role unless it internationalizes. It  
128 is therefore incumbent on universities to internationalize curricula to improve their student’s  
129 prospects in globalized sectors of the labor market (Marginson & van der Wende, 2011). It is  
130 reasonable to assume therefore, that an education for a globalized world must aim to develop the  
131 advanced cognitive skills needed for identifying and solving problems, presenting arguments and  
132 communicating across cultures, in order to become more competitive in a world of rapid change  
133 (Suárez-Orozco & Qin-Hilliard, 2004).

#### 134 **Internationalization of the Global Fashion Industry**

135         The growth and globalization of the fashion industry is unprecedented. The scale and  
136 productivity of worldwide operations involving the production and sale of fashion products, the  
137 import and export of raw materials, textiles and finished garments associated with apparel supply

138 and consumer consumption has grown exponentially. The fashion and textile industry in 2013  
139 exported almost US\$766 billion of merchandise and imported over US\$863.5 billion worldwide  
140 (WTO, 2014). Fashion businesses work with multiple countries on a daily basis with over 85%  
141 of U.S. fashion firms' sourcing from at least six different countries and 20% of these firms  
142 sourcing from more than twenty different countries (Lu, 2015). U.S. fashion companies will  
143 continue to diversify their sourcing with 53% expecting to be more diversified within two years  
144 (Lu, 2015). The industry as a whole is responsible for almost 5% of global trade (WTO). In  
145 2013, exports of textiles and clothing grew four times as fast as the average growth for all  
146 exports – 8% as opposed to 2% (WTO).

147 In 1980, China exported US\$1.6 billion of textiles and apparel. By 1996, it was exporting  
148 sixteen times that amount at US\$25 billion. The late 1990s saw the introduction of fast-fashion  
149 as a strategy for selling low cost fashion in high volumes, which caused an explosion in demand  
150 for new apparel with increasingly short lifecycles. China's garment industry has been one of the  
151 primary economies that supported the scaling up of demand with supply. The net result has been  
152 that China's 2011 figure for textiles exports is US\$154 billion, another six times more than  
153 exports in 1996. Similarly, Bangladesh exported US\$20 billion worth of textiles in 2011 in  
154 comparison to US\$2.2 billion in 1996, a 900% growth in just fifteen years. Fashion is truly a  
155 global industry and it shows no indication of slowing its growth.

156 According to Kunz and Garner (2011), textile and apparel related businesses provide  
157 employment for more people than any other business segment and these positions can be found  
158 in every country of the world. Many companies have their home base in one country (probably a  
159 developed country) and design, source, and/or manufacture in a second or even a third country  
160 (most likely a less developed country). Business teams are created across countries in order to

161 keep track of the supply chain processes. To meet the demands of this global environment,  
162 students must be prepared to not only think differently but even behave differently to gain an  
163 understanding of the multi-dimensional aspect of this type of business and teamwork within an  
164 international environment.

### 165 **Problem Based Learning**

166 The Connect project advocated learning about the issues and solutions for sustainable  
167 fashion innovation by providing the opportunity for each of the four students to directly  
168 experience and evaluate a wide range of expertise, practices, solutions and problems through  
169 participation in a planned series of visits, discussions, presentations, events, meetings, interviews  
170 and workshops thematic of the projects objectives. The host institution in each country visited by  
171 the Connect team planned their own schedule based on existing partnerships and collaborations  
172 with firms and experts with the overall theme of sustainable fashion innovation which offered a  
173 broad range of issues to be investigated. The discourse, debate and participation implicit in the  
174 activities was the stimuli for learning, allowing each of the student members of the team to  
175 interpret, understand, research, critically evaluate and determine potential solutions to the  
176 problems they discovered during the experience.

177 The structure of the project actively encouraged student engagement in self-directed  
178 learning (SDL). Students journey through learning in the Connect project and its collaborative  
179 nature meant that the learning process was shared within a small team; the student participants  
180 cooperated as a small group that assisted each other in navigating the complexity of the  
181 sustainable fashion innovation issues and the instructors from each university in the team worked  
182 as facilitators for student learning; supporting and guiding their progress and augmenting ideas,  
183 research and solutions through their own expertise.



184           The learning objectives and structure of the Connect project were underpinned by the  
185 theories and practices of Problem Based Learning (PBL), an instructional method in which  
186 students learn through solving problems and reflecting on their experience (Hmelo-Silver &  
187 Barrows, 2006). PBL is focused on experiential learning around investigation and resolution  
188 toward meaningful problems. Barrows (2002) suggests that PBL should explore a problem that is  
189 ill-structured. This provides an incentive for learning; as such, PBL requires topics that are  
190 complex and cannot be solved with one simple solution. Sustainable fashion innovation is one  
191 such topic, with no single correct answer, in which learners must explore the knowledge domain,  
192 critically evaluate alternatives and provide reasoned arguments to support decisions and  
193 solutions generated. The complex and pervasive nature of sustainable fashion innovation and the  
194 range of practice and research taking place around the topic made it the perfect exploratory  
195 theme for PBL activity. The goals of PBL resonated with the objectives of the project in five key  
196 areas:

- 197       1. To construct an extensive and flexible knowledge base around sustainable fashion  
198       innovation in a real-world context. (Make sense of realistic ill-structured problems)
- 199       2. For student participants to develop effective problem-solving skills
- 200       3. Enhance students ability of SDL and lifelong learning skills
- 201       4. Develop their capabilities and effective collaborators
- 202       5. Become intrinsically motivated to learn about the issues of sustainable fashion innovation  
203       and take ownership of the issues, problems and solutions. (Hmelo-Silver, 2004)

204           The nature of PBL is based on developing students' skills in SDL toward addressing  
205 broad problems. The project itself provided a series of experience led activities that exposed  
206 students to a wide range of practices and perspectives on sustainability in small and large firms

207 and discussions with leading academics and professionals who are proponents of the subject or  
208 undertaking entrepreneurial activities that demonstrate new thinking in sustainable business. The  
209 project purposely provided minimal information about the topic and activities prior to the  
210 learning events in its schedule, thus ensuring that the emphasis was on the student discovering  
211 the issues and ensured they would take an experimental and cooperative learning approach  
212 (Yusof, Hassan, Jamaludin & Harun, 2012). Within this structure and in the process of exploring  
213 the problems students discover, it is suggested the learner should be able to develop an  
214 awareness of what they do not understand, set a series of their own learning goals and define  
215 what they need to know more about and choosing appropriate strategies to achieve this (Allen,  
216 Donham & Bernhardt, 2011). Importantly they must also be able to reflect on the process at  
217 regular intervals to consider what has been learned and re-evaluate what is next in their  
218 investigation. All of this must take place in a real world context, one that makes the learning  
219 worthwhile, because its usefulness and application is demonstrated to the learner as they  
220 experience the issues directly (Hmelo-Silver, 2004).

221         The constructivist nature of learning within PBL and the planning of the Connect project  
222 and its broad objectives made the use of PBL pedagogy as a decision that allowed the  
223 collaborating teams to integrate information and learning across multiple domains and cultural  
224 backgrounds within a complex theme. This also provided a unique opportunity to facilitate  
225 knowledge construction and transfer of knowledge between students, academic staff,  
226 universities, and their partners more broadly via the projects social media reach, forming a rich  
227 learning community (Smith, Sheppard, Johnson & Johnson, 2005). The structure and schedule of  
228 learning objectives, activities, challenges and cooperative learning opportunities as well as the

229 facilitators and reflective blog served as a scaffolding for students to explore the issues of  
230 sustainable fashion innovation.

### 231 **The Millennial Generation**

232 According to Considine, Horton and Moorman (2009) the “Millennial” are the first  
233 generation who have grown up since the advent of the World Wide Web and other digital  
234 technologies. This generation, born post 1982, are regarded as digital natives, having been  
235 immersed in information and communication technologies (ICT) for all of their lives. Considine  
236 et al. (2009) further suggest that the millennial generation are fluent and creative in their use of  
237 ICT, engaging with ease in the rapid developments of emerging technologies. Preferred methods  
238 of communication include social media, which includes the sharing of information, images and  
239 videos through webpages, online journals and blogs. A conclusion is drawn that education needs  
240 to take into account the digital world of the millennial generation in building a suitable  
241 environment for learning (Considine et al.).

242 A web page was developed for this project in order to allow students at each institution  
243 follow the travel of the core group. While in each country, each student blogged about their  
244 experiences and informed followers about what they were learning. On traveling days, each  
245 institution uploaded pertinent videos that were produced or procured about sustainability efforts  
246 in the fashion industry. Topics included mass production of new garments from second hand  
247 clothes, corporate responsibility in manufacturing, innovation in sustainability, ethical and  
248 unethical practices, upcycling, re-use and end of life. This allowed students following the  
249 experience at the home institutions to have new information every day on the project.

250 **Connect Project**

251           The Connect project was developed in response to the need for internationalization and to  
252 broaden student’s concepts of the global fashion industry. Using PBL pedagogy, the project  
253 brought awareness of sustainable fashion innovation to four institutions around the world.

254           The Connect Project provided a contemporary platform for ICT, which motivated  
255 students to engage and participate in the debate through the preferred channels of their  
256 generation of learners. A webpage, twitter feeds and blogs provided current information to  
257 learners at each host university in real time.

### 258 **Role of the Instructors**

259           The instructors included experts in different areas of the fashion industry which brought  
260 different perspectives to the experience. In the PBL format, instructors are facilitators in the  
261 learning process. Barrows (1992), the theorist behind PBL, states that the role of the facilitator is  
262 to model higher order thinking skills by asking questions to encourage students to think deeply  
263 about the issue. To achieve this, the facilitator should constantly ask the students “why?” or  
264 “what does that mean?” and be careful not to interpret, express an opinion or give information to  
265 the student. Facilitators should also challenge the students through questioning to achieve deeper  
266 thinking such as “how do you know this is true?” or “what else might be important?” In a  
267 collaborative learning environment, fellow students should be encouraged to share this role and  
268 ask each other questions as well.

269           The instructor/facilitators in the Connect project worked with one another and helped  
270 students focus on the objectives through conversations surrounding the learning experience and  
271 helped internalize the large amounts of information being presented daily. As each facilitator had  
272 a different area of specialty, the responsibility of asking questions was taken on at different times  
273 throughout the trip.

274 **Role of the Students**

275           The students were selected for this project by each institution through their own selection  
276 process. The traveling students were encouraged to reach out to each other before meeting in  
277 person to start a dialog and to answer any questions that may arise. Each student was responsible  
278 to host the other students while in their respective city. They were also required to create a  
279 presentation on fashion in their city which included photographs of buildings, shopping districts,  
280 people on the street, inspiration and anything else they deemed of importance to know.

281           Students were required to present during conference events in each country, putting  
282 forward their ideas and perspectives as part of exploring the debates in which they were engaged.  
283 The project provided rich sources of inspiration that challenged students' current thinking and  
284 made them reflect on their own actions as consumers of fashion and future industry  
285 professionals, through problem based learning. Their ownership of the issues they had  
286 recognized and investigated provided the intrinsic motivations to continue autonomous learning  
287 toward their work and to critically evaluate the design and business practices of the apparel  
288 industry.

289           The results of the project were recorded and disseminated by all participants through  
290 social media, daily blogging and the specific Connect project webpage that collated a rich variety  
291 of examples and perspectives on sustainable innovation. On days that there are no presentations  
292 due to activities or travel, videos from each institution were released. The goal was to have some  
293 content uploaded to the dedicated web page every day for eighteen days while the group was  
294 traveling from site to site. This allowed for students and faculty at the home institutions to follow  
295 the journey, read about the issues and ask questions.

296 A unique hashtag was also developed so that the visits could be followed in real time. It  
297 was expected that the students would document much more than they posted. The outcome  
298 became a global perspective of sustainable innovation in the field of fashion.

### 299 **The Connect Experience**

300 In visiting each country the representatives of the Connect project (1) explored local,  
301 small and medium sized firms and not-for-profit organizations that champion social  
302 responsibility, upcycling, supply-chain transparency and new fashion business models and (2)  
303 presented at sustainability events in each university that invited practitioners, entrepreneurs and  
304 the academic and student participants to offer perspectives on the importance of sustainability for  
305 the apparel industry and debate its future.

306 The visits were determined by the host instructor with a focus on sustainability.  
307 Numerous resale shops were visited, each with a different style, target market and business plan.  
308 The participants visited three museums (UK, CH, AUS), a conference (UK), a garment and  
309 household textile recycling facility (US) and attended (AUS) Fashion Week. They also partook  
310 in a series of workshops on upcycling t-shirts and old jewelry and the use of natural dyes.  
311 Shopping districts with small retail shops were visited as well as small and large scale  
312 manufacturing firms. In between, historic or tourist sites specific to each location were visited  
313 and participants documented unique street styles, observed different merchandising techniques  
314 and discussed commonalities/differences among the countries.

315 During the project there were numerous examples of how the theory of PBL was  
316 emerging during the practice of the project itself in the context of cooperative learning and  
317 international collaboration. One of the projects initial visits was to a Salvation Army  
318 consignment store in the United States. This visit immediately involved the team learning about

319 clothing waste, recycling and re-sale. It showed the huge amount of valuable textile waste  
320 generated in this geographic area alone, with the Salvation Army's sorting operation receiving  
321 around 9 tons of clothing per day. The re-sellable clothing was separated and went to one of ten  
322 local Salvation Army thrift stores; the poorer quality textiles were bailed and sold on for  
323 recycling. The experience was not only real-world, but had a significant impact in terms of  
324 visualizing what 9 tons per day of waste textiles looked like. It triggered much debate and  
325 exploration of the consumer and consumption systems that produce such waste, prompting  
326 students to reflect on over-consumption in the apparel industry.

327         This experience was the first sign of several elements important to PBL emerging in the  
328 practice of the project. First, the students from each university immediately began to collaborate;  
329 discussing the issues between themselves and with academic facilitators to start to make sense of  
330 new learning and construct meaning(s) around it. This sparked a series of learning questions that  
331 each of the students began to explore, which began the cooperative learning seen throughout the  
332 project. The enlightenment that the visit provided produced the intrinsic motivations implicit in  
333 engaging with real problems through experience and the freedom to discover and investigate the  
334 issues unprompted. It is suggested that PBL should make learning "personally meaningful"  
335 (Allen, Donham & Bernhardt, 2011). The view of the overwhelming amount of textile waste  
336 made the issue apparent and very personal to the students.

337         Linked to this, one of the requirements of the project was to blog about the experiences in  
338 the project so each student recorded and reflected on their learning. This was planned into the  
339 project because the reflective requirements of the blog keeping and live entries made during the  
340 project provided a vehicle for the students to relate their knowledge to prior understanding and  
341 construct meanings around what they have experienced by identifying gaps in their knowledge

342 and defining learning goals as a result. Blogs are also an excellent means of facilitating recording  
343 of reflective thoughts rapidly, post-activity (Chhabra & Sharma, 2011). The following quote  
344 perhaps illustrates how the experiences were personally meaningful for the students:

345         The sheer volume of donations is mind boggling – an amazing 18,000 pounds a day –  
346         however, only a small portion is usable (roughly one garment per pound). It was amazing  
347         to hear that very little is sent to landfill, with unsaleable products sold and sent overseas  
348         in bales, and badly damaged items sold as industrial rags – both of which generate  
349         revenue to fund the charity operations. – Quote from AUS student’s blog. (Connect  
350         Project Blog, 2015)

351         A conference being held at the UK university was a highlight of the trip for the  
352 participants. A variety of fashion professionals spoke about issues they believe are important for  
353 the future of the fashion industry. One of the speakers, Sass Brown from the Fashion Institute of  
354 Technology in NYC and author of *Sustainability in Fashion Design* and *Eco Fashion*, discussed  
355 the disruption of the system of fashion by looking at each stage of the supply chain in a new way  
356 to determine what can be done differently both in terms of sustainability and ethical  
357 responsibility. Brown also left the audience with a thought on how to quantify success by stating  
358 “Rethink what a successful company is – is it one that is international and making loads of  
359 money and product or is it a small company who is supporting two dozen people and their  
360 families and creating sustainable product?”

361         Also at the conference was Orsola de Castro, co-founder of Fashion Revolution and the  
362 upcycled brand *From Somewhere* which uses pre-consumer surplus from garment manufacturing  
363 houses and textile mills to create unique garments. De Castro discussed that the scraps from a  
364 manufacturer could be thousands of yards and still be too little for them to use in their main



365 collections. De Castro asked the audience, “Every piece of clothing we wear is made by human  
366 hands. Do you know who made what you are wearing?” This led to a discussion of de Castro's  
367 work with Fashion Revolution which is a movement that came about after the Rana Plaza  
368 building collapse (Bangladesh) in April of 2013. Fashion Revolution hopes to reconnect people  
369 to the processes and impacts involved in making our clothing – the supply chain is a series of  
370 relationships, not machines. In her closing statement, de Castro stated that “sustainability should  
371 just be called common sense.”

372           Students had been briefed that they would be required to deliver a presentation on the  
373 fashion styles and culture in each of their home cities while in the UK. This goal in their learning  
374 and the experiences in the project also motivated the students to work together and problem  
375 solve toward meeting self-defined standards and content, as the brief was entirely open and had  
376 no assessment associated with it. The drivers for students own learning goals were that they were  
377 challenged to present alongside professionals and academics on similar subjects during the  
378 conference to an audience of their peers. This saw the students actively engaging in developing  
379 flexible knowledge that could be used to underpin their presentation and be prepared for  
380 questions about the alternatives, supporting research and considerations that they had evaluated  
381 in constructing their presentations. The experience raised their confidence in problem solving  
382 and presenting their ideas as part of a broader debate on sustainable fashion innovation. Working  
383 with professionals and some leading speakers on sustainable fashion the UK leg of the project,  
384 such as Brown and de Castro, gave the students a further opportunity to develop their thinking.  
385 The US student blogged:

386           The speakers were incredible. They all spoke about things that they believed were  
387 issues in the fashion industry, which is something that I believe all students should be

388 aware of. Some of the large things that were discussed were on the same lines of our  
389 project of sustainability; expose the supply chain, avoid design colonialism, respect  
390 cultural codes, produce products with care, inclusive beauty, anti-fashion, and engage  
391 yourself. Each topic is huge and the speakers did a fantastic job on teaching everyone at  
392 the conference more about each of their subjects.

393 Tomorrow is when myself [*sic*] and my other student colleagues in the project  
394 speak at the second day of the conference with more guest speakers. We will all be  
395 focusing on Sustainability; wish us luck! (Connect Project Blog, 2015)

396 The China part of the project saw the students presented with the issues of  
397 contextualizing what they were learning in a different cultural context (at least for three out of  
398 the four students). The added complexity was the scale of China's potential consumption and its  
399 rapid economic growth and prosperity. In the context of this, the students also directly explored  
400 the ideas of applying ancient Chinese traditions, such as natural dyeing in the context of modern  
401 fashion design during a collaborative hand-dyeing workshop. A big part of Chinese fashion  
402 design is still rooted in tradition, and many of the traditional ways of making garments are  
403 inherently sustainable; making use of natural methods and materials in a 'slow fashion' process.  
404 The students furthered their knowledge and SDL through exploring methods and practices and  
405 transcending communication and cultural barriers as part of cooperating toward their learning.  
406 This was demonstrated when students discussed sustainability during an open interview with a  
407 leading Chinese lingerie manufacturer and their head designers. The UK student blogged:

408 [Company name] who approaches design with the environment in mind, [the company]  
409 interestingly takes environmental factors such as pollution in mind when developing their  
410 fabrics, with the aim of producing garments that are friendly on the body's skin. This is

411 evidenced more than anything in the brand looking into manufacturing lingerie using  
412 bamboo and milk fibres.

413 This product innovation, rather than sustainable innovation, is also seen in the  
414 company releasing the typical four season collections per year, with new garments added  
415 to lines every single month. With that said, production is made to order, meaning  
416 manufacture of their products is kept to the quantity for which they have been  
417 commissioned, ensuring minimal over-production and thus less over stock. (Connect  
418 Project Blog, 2015)

419 The final leg of the project was in Australia and an open forum with a question and  
420 answer format was scheduled. This event tested what the students had learned, with questions  
421 coming from both student and professional attendees as part of a panel discussion. The students  
422 were able to answer complex questions on fashion sustainability with confidence, articulating  
423 new knowledge about complex sustainability issues and giving real world applications and  
424 research to support to their answers. Each student was able to explain different perspectives and  
425 understood each other's interests and expertise. They demonstrated what they had defined as  
426 their own personal learning goals, as each had taken different pathways through the complex  
427 sustainability problems based on their perspectives and interests. This strongly resonated with  
428 the idea that cooperative learning results in "distributed expertise" because collaborators divide  
429 up problems into domains that enhances problem solving and promotes shared knowledge  
430 construction (Sroufe & Ramos, 2015, p. 163).

### 431 **Evaluation and Discussion**

432 The four students were assigned to write reflective statements about their experience on  
433 the trip. The reflection was scheduled after the project had concluded so students would have

434 time to internalize the experience and determine what the greatest benefit was to this experience.  
435 They were also asked how they might change this project in the future.

436 Participants used adjectives such as “inspiring”, “eye-opening” and “crucial” to describe  
437 their experience. The participants felt that the experience informed and expanded their  
438 knowledge of sustainability as it pertains to the fashion industry. Indeed, the US student stated  
439 that “The Connect project was the pivotal point in my college career. It helped me to grow as a  
440 student and future professional” (Connect Project Blog, 2015).

441 A major theme throughout this trip was that small businesses were approaching  
442 sustainability from a model based on necessity because it was actually easier to implement as a  
443 small business. Small production runs, using waste or scrap fabric, creating garments that focus  
444 on long term style and not “fast fashion” were only some of the ways the small businesses  
445 worked. This observation led one student (CH) to comment “I believe that if we spent all our  
446 money on independent designers, it would be a big step towards sustainability and would help  
447 cultivate a more sustainable attitude” (Connect Project Blog, 2015). Another student, from  
448 Australia, stated that

449 Over the course of this trip it became apparent that smaller businesses are often far more  
450 sustainable than larger, mass-market retailers. However, this was often not a conscious  
451 choice, but rather out of necessity due to their more limited resources and increased need  
452 for efficiency. We were fortunate to visit a number of such businesses across all four  
453 countries and learn about their individual efforts towards sustainability, both intentional  
454 and unintentional. (Connect Project Blog, 2015)

455           Students interviewed owners and workers at retail locations, the conference speakers as  
456 well as independent designers. The participants were impressed by many of the people they met  
457 in each country. As one student stated,

458           Their passion and drive was catching and I believe it to be an asset that I could never  
459 have obtained from purely my own research, yet it is something that I think will help me  
460 in both my future studies and my career. – quote from AUS student. (Connect Project  
461 Blog, 2015)

462           This experience was exciting and challenging for all the participants. The US student  
463 stated that she gained courage and professionalism through this trip and was able to learn in ways  
464 that no classroom could ever offer. When asked about the future of this project, two of the  
465 students were emphatic about changing the focus from what is currently happening in the  
466 industry to a solution based perspective.

467           Many people are disheartened to the point where they feel helpless and simply  
468 tune out. I believe it is essential to focus on solution-oriented discussion, including  
469 looking to best practice fashion businesses for inspiration, as well as discussing and  
470 developing innovative ways in which companies can make meaningful changes. – quote  
471 from AUS student. (Connect Project Blog, 2015)

472           This conversation has to continue with a solution based approach. We need to  
473 concentrate on analyzing different approaches [to sustainability] with regards to their  
474 effectiveness and power to fundamentally change and/or disrupt the current system. –  
475 quote from UK student. (Connect Project Blog, 2015)

476           The students had spoken of being disheartened about the state of the fashion industry,  
477 with one participant telling us that she had been thinking about changing her career direction

478 before going on this trip. Often classes may focus on the destruction the fashion industry is  
479 involved in – pollution of rivers due to chemicals, over-consumption and waste of materials, use  
480 of pesticides and more. This experience allowed the participants to see, experience and meet  
481 many people who are interested in changing the face of fashion and trying to create fashion with  
482 meaning.

483 So, from a personal perspective, after having the opportunity to witness fashion in  
484 practice across the world, I feel the Connect project’s biggest success has been in its  
485 ability to generate genuine interest in the current and future issues related to the apparel  
486 industry. It has allowed me, my fellow Connect students, and those who attended any of  
487 the talks given in connection with the project, start to question the industry we have  
488 dedicated ourselves to, as well as develop a desire to bring forward solutions to the  
489 problems discussed. This is something Orsola De Castro poignantly put forward during  
490 her talk by saying “You are part of the solution”. - quote from UK student. (Connect  
491 Project Blog, 2015)

## 492 **Discussion**

493 The PBL structure on which the Connect project was based allowed the students to  
494 accumulate a wide range of knowledge toward sustainable fashion innovations in a broad range  
495 of areas. The student’s learning, evaluation and retention of the issues and their conversion from  
496 information to knowledge and practice was strongly evidenced by their actions and the  
497 summative reports they each delivered after the project completion. The students were  
498 motivated, collaborative and began challenging the facilitators’ knowledge and understanding  
499 toward the end of the project. This signified a deeper level of learning; routed in ownership of  
500 the problems and issues and discovering solutions through experimental learning approaches in

501 cooperation with those around them. Each student demonstrated the extent to which they had  
502 developed extensive flexible knowledge and could adapt and critically reflect on a range of  
503 sustainability issues when challenged about them. The evidence of the success of the project was  
504 in the student performance itself. The students engaged in the project as a team and supported  
505 each other in the learning process. The students took all opportunities to interact with peers,  
506 professionals, experts and formed a community of learning both real-world and online, creating a  
507 social network toward sustainable fashion innovation. Each student self-regulated their learning  
508 and defined what to learn, using time and resources as needed. Critical to the success of the  
509 students learning was the planning and scaffolding for learning through the projects planning  
510 which the academic facilitators provided.

511         The Connect student’s blogging and the daily information uploaded to the dedicated  
512 website also provided knowledge and points for discussion at each home institution. The students  
513 liked this method of knowledge dissemination as it allowed their classmates to ask questions and  
514 keep up with the experience and vast amounts of information being gathered. This wider reach  
515 was important to the developers of this project to allow as many students as possible to take  
516 advantage of this learning activity.

517         In short, over the eighteen day period, the students learned a lot about their industry, its  
518 global nature, and, in particular, the need to move toward sustainable business models, reduce  
519 consumer consumption of textiles and the waste it generates. The project linked the importance  
520 of ethics intertwined with garment workers labor conditions and poor production practices,  
521 providing a “big picture” of the many changes and interventions required toward finding  
522 solutions to a variety of complex issues.

523           The Connect project made a significant contribution to the debates and developments  
524 toward sustainable fashion innovation and was engaged with by a number of leading thinkers  
525 around fashion sustainability that linked up with the project via its communication channels and  
526 not only provided an example of how to construct and execute a successful international  
527 collaboration based on a PBL structure, but one that also used social media and blogging to  
528 broaden the inputs and potential for research and facilitation by a wider audience on an open  
529 basis. The information uploaded to the shared webpage has generated a rich learning resource  
530 that can now be used to develop teaching resources and create a learning collaborative that can  
531 be used as a platform to scale up participation and the wide dissemination of the projects  
532 outcomes.

### 533   **Impact and Project Outcomes**

534           The objectives of the Connect project were threefold and the first objective was to  
535 generate interest and enquiry surrounding the issues which affect the global apparel industry, the  
536 environment in which we live and our future. Industry experts, fashion activists, academics and  
537 students, brought together by the Connect project, achieved Objective 1 through discourse and  
538 debate. An intensive eighteen day period served to maintain a focus on the topic of sustainability  
539 in the apparel industry and as this related directly to their chosen field of study it was perceived  
540 by students to be both relevant and impactful to their future careers. The broad span of speakers  
541 and exposure to information from across the globe generated awareness of the implications for  
542 the environment and the future.

543           Each academic from the participating institutions delivered a lecture on fashion  
544 consumption in the US/UK/Australia, thereby providing a broad view of consumption from  
545 different cultural perspectives. This helped the students and our web audience to better



546 understand the scope and scale of the problems and challenges that face our industry, the focus  
547 of objective 2. Overconsumption became apparent as the common theme of discussion and  
548 firmly established the scope and scale of the challenges facing the apparel industry in creating a  
549 sustainable future.

550 Objective 3, to encourage students to become active in the campaign for a sustainable  
551 future, was realized through student involvement with the organization, Fashion Revolution.  
552 Students were keen to be involved with an active campaign and in the UK formed a “flash mob”  
553 to draw attention to Fashion Revolution Day held on the anniversary of the Rana Plaza disaster  
554 (April 24, 2015, about one month after the conclusion of the Connect project travels). In both the  
555 US and AUS, students participated by turning their clothes inside out, taking a "selfie" and  
556 twittering "who made my clothes". In addition a forum held in AUS was conducted with Wendy  
557 Savage, Manager, Supply Chain Social Responsibility & Traceability - Patagonia U.S. as the  
558 guest presenter. Savage outlined how Patagonia managed their supply chain to ensure ethical  
559 sourcing and traceability. This presentation was captured on video, then uploaded and shared  
560 onto the Connect webpage.

561 The Connect Twitter feed quickly attracted 428 followers and in the process gained the  
562 attention of fashion activists, politicians, journalists and celebrities engaged in implementing  
563 change. A faculty member and the student representative for Connect from the UK university  
564 were invited to participate in a parliamentary question time at the House of Lords to join the  
565 debate the issue of sustainability in the fashion industry. Hitchen (2015), Connect webpage  
566 manager, commented on twitter “Fashion communication can be a key disruptor, especially  
567 through social media”.

568 **Challenges**

569 Working across time zones, borders and cultures presented challenges. Educational  
570 semester structures and vacation times offered a narrow gap in which to collaborate, just as  
571 Australia returned from a summer vacation (winter to the other participants) in February, China  
572 entered its spring festival, both of these provided a short time frame before the United States and  
573 United Kingdom began their spring or Easter break. Additionally, shared information platforms  
574 were difficult to negotiate as not all participant countries share the same communication options.

575 China has the world's largest Internet user base and is the most active country in terms of  
576 social media usage with more than 300 million people using it at any given time (Chiu, Ip &  
577 Silverman, 2012). However we found it a challenge to use social media while in China as the  
578 country does not support Facebook or Twitter, two of the platforms we were using to connect  
579 with followers. This issue served to highlight some of the cultural differences and imbalances  
580 that must be overcome in cross border trade and activity.

### 581 **Conclusion**

582 The Connect project not only provided an example of how to construct and execute a  
583 successful international collaboration based on a PBL structure, but one that also used social  
584 media and blogging to broaden the inputs and potential for research and facilitation by a wider  
585 audience on an open basis (Chhabra & Sharma, 2011). By explaining each of the five areas of  
586 PBL and reflecting on how they were implicit in the activities of the Connect Project an  
587 empirical example of an international collaborative PBL activity can be evaluated against PBL's  
588 pedagogic theory.

589 The project established that learning about current business practices, interventions, and  
590 innovations that begin to reduce the demand, supply, production and consumption impacts of the  
591 apparel industry, requires a high level of research and analytical capabilities. Suárez-Orozco &

592 Qin-Hilliard, (2004, p. 6) state that “The skills needed for analyzing and mobilizing to solve  
593 problems from multiple perspectives will require individuals who are cognitively flexible,  
594 culturally sophisticated and able to work collaboratively in groups made up of diverse  
595 individuals”, which substantiates this conclusion. Not only is it important for fashion’s future  
596 professionals to gain a broad perspective of the industry they seek to enter, they must develop the  
597 requisite analytical abilities and intellectual agility needed to succeed in a globalized  
598 marketplace.

599           It is the responsibility of higher education in the field of apparel to provide the tools  
600 needed to make change in order to lessen the impact of apparel production and consumption.  
601 Institutions and individuals should develop, nurture, debate and contribute to knowledge and  
602 research, towards more responsible social and environmental practices in the fashion industry.

603           Students and faculty participating in Connect gained a unique perspective of the global  
604 apparel business. However, according to XXX (2015), co-founder of Connect,  
605           ...perhaps the greater benefit of the project is in the capacity to take this experience,  
606 combined with projects and activities in each of the countries visited, and through virtual  
607 interface share knowledge, discourse, experiences and ideas. As a result, this has become  
608 a dynamic ongoing dialogue. Hundreds of students and academics have now been  
609 touched by the project. As each city hosted forums and shared intelligence, those  
610 attending and involved have become part of a larger global fashion community.

611           The valuable shared resource base initiated through the project will continue to grow,  
612 providing current material to support learning and teaching. Future collaboration between the  
613 partners will further enhance opportunities for students to gain an international perspective of  
614 their chosen industry.

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